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# A Photograph:

## AND HOW TO TAKE IT.

By "ONE WHO KNOWS."

EDITED BY

A. A. WOOD, F.C.S.

**London :**

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# INDEX.

*Where two numbers are given, the first refers to HOW TO USE, and the second  
HOW TO BUY the article.*

	PAGE.		PAGE.
Albums ... ..	50	Ferri-Cyanide Paper ... ..	13, 46
Actinometer ... ..	23, 47	Graduated Measures ... ..	49
Aristotype Paper ... ..	46	Instantaneous Shutters ... ..	38
Alpha Paper ... ..	46	Intensification ... ..	8, 51
Burnishing ... ..	12, 52	Instantaneous Photography ... ..	22
Books ... ..	53	Journals ... ..	53
Bottles ... ..	56	Lantern Transparencies ... ..	15, 40
Camera ... ..	2	Lanterns, Enlarging ... ..	32
" Fitting-up ... ..	5	Lens... ..	2
Cameras—Instantaneous ... ..	28	Lenses for Enlarging ... ..	32
" Kinear ... ..	29	" Wood's ... ..	35
" Imperial... ..	29	" Ross's ... ..	37
" Universal ... ..	30	Lamps, Non-actinic ... ..	41
" Le Merveilleux ... ..	30	Mounts ... ..	12, 47
" Instantograph ... ..	31	Mounting ... ..	12, 51
" International ... ..	32	Negative Bags ... ..	51
" Secret ... ..	31	Obernetter's Paper ... ..	46
" Micro Photographic ... ..	31	Opal Plates... ..	14, 39
" Stereoscopic ... ..	24, 32	Over-Exposed Negatives ... ..	8
" Enlarging ... ..	32	Pictorial Effects ... ..	4
Cutting Shapes ... ..	50	Photography in Sunshine... ..	23, 49
Cloud Negatives ... ..	11, 50	Platinotype Prints... ..	52
Cases for Cameras ... ..	34	Printing ... ..	10
Cycle Clip ... ..	35	Parcels by Post ... ..	40
Clearing Bath ... ..	8	Photographic Sets ... ..	27
Chemicals ... ..	54	Plate Boxes... ..	42
Dark Room... ..	3	Printing Frames ... ..	51
Diaphragms ... ..	38	Printing Papers ... ..	45
Developer, Alkaline ... ..	6	Photographic Printing ... ..	10, 52
" Ferrous-Oxalate ... ..	7	Reducing Negatives ... ..	9
Dry Plates ... ..	4, 39	Rivot's Paper ... ..	13, 45
Dishes ... ..	40	Retouching... ..	10, 51
Development ... ..	6	Ready-made Solutions ... ..	54
Developing Plates ... ..	51	Standard Formulæ ... ..	23
Exposure ... ..	5, 8	Stands for Cameras ... ..	34
Exposure Scale ... ..	23, 47	Scales ... ..	42
Eastman's Roll Holder ... ..	32	Sundries ... ..	48
" Film Carriers ... ..	33	Tents, Dark ... ..	43
" Negative Films ... ..	19, 33	Toning Bath ... ..	11, 52
" Bromide ... ..	14, 45	Varnishing ... ..	9, 51
Enlargements ... ..	17, 53	Vignetting ... ..	11, 50
Froedman's Film ... ..	34	Washing Troughs ... ..	43, 44
Fixing Negatives ... ..	7	" Negatives ... ..	7
" Prints ... ..	11	" Prints ... ..	12
Ferro-Prussiate Paper ... ..	13, 46, 52	Weights and Measures ... ..	5

# A Photograph,

## AND HOW TO TAKE IT.

BY "ONE WHO KNOWS."

EDITED BY A. A. WOOD, F.C.S.

THE late remarkable improvements in Dry Plate Photography have quite revolutionised this most attractive art. To many persons the expense, trouble, and stains of the Wet Process were so great and objectionable that photography came to be regarded as an occupation only suited to the professional. Most of these difficulties have been cleared away, and a tourist, with a small camera and a packet of dry plates, can now with ease and rapidity photograph any object of interest that attracts his attention, leaving the developing and fixing of his plates till his return home.

The following directions are intended for beginners in the art of photography, and though only one method of procedure is described, it is not meant that this is the only one by which perfection can be obtained. There are, in fact, many ways of obtaining the required results, and the practised photographer can always produce the best work by following the method to which he is best accustomed, but beginners are strongly advised to adhere exclusively to one formula until they have completely mastered it; then, but not before, they may, with some prospect of advantage, vary their course as circumstances may suggest.

### THE APPARATUS.

This necessarily depends upon the sum the beginner wishes to expend, and the extent to which he intends to carry the practice of the art. From fifty shillings and upwards he can be furnished with a complete apparatus, including bellows camera, stand and lens, plates and chemicals. Of course he will not expect to find in the lower-priced apparatus the same facilities, perfection of workmanship, and beauty of finish afforded by the more costly sets, but with a proper degree of care very successful

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results may be obtained. Whatever be the class of apparatus determined upon, it is important that both camera and stand, while light and portable when closed, are firm and free from vibration when fixed up for use, and the fewer loose parts they have about them the better, as all such are apt to be lost or forgotten.

The following list includes only the articles absolutely necessary for producing a finished paper print :—Camera, Lens, Stand, Focussing Cloth, Dry Plates, Measuring Glass, Developing and Fixing Solutions, Dishes, Printing Frame, Sensitive Paper, Toning and Fixing Baths, Mounts, and Mounting Medium.

### THE CAMERA.

A Photographic Camera may be roughly described as consisting of a box, at one end of which is the lens, the opposite end being closed either by the ground glass screen upon which the image of the object to be photographed is focussed, or by the dark slide which contains the sensitized plate.

So infinite is the variety of models and patterns that a full description would be impossible. First, there are what we term "Beginner's Cameras"; these have all the points necessary for the production of a picture, but lack the precision and rigidity of the higher class instruments.

Between these and the very best lies a range of confusing grades, both as to usefulness and price; and to any one choosing a camera the best advice is—fix in your mind the sum to be expended, and carefully inspect one or two patterns before purchasing. It is a great mistake to wander from shop to shop, for it is impossible to obtain a clear idea after seeing a score or more varieties of workmanship and finish. Let the choice be made among the goods of a house of repute.

The following are the sizes of the plates in ordinary use :—

$3\frac{1}{2} \times 3\frac{1}{2}$ Lantern Slide.	$10 \times 8$ Extra size.
$4\frac{1}{2} \times 3\frac{1}{2}$ or "Quarter Plate."	$12 \times 10$ "
$6\frac{1}{2} \times 4\frac{1}{2}$ or "Half" " "	$15 \times 12$ "
$8\frac{1}{2} \times 6\frac{1}{2}$ or "Whole" " "	

"Inner Frames" or "Carriers" can be supplied to the dark slides, so that the smaller sizes of plates can be used in large cameras.

### THE LENS.

A few words upon the Lens may not be out of place when it is remembered that upon its perfect adaptability to the work depends a great part of the perfection of the picture. Photographic Lenses may be broadly divided into two classes—the "Single Achromatic" and the "Achromatic Doublet." The requisite exposure of a plate depends upon the amount of light thrown by the Lens upon it, and this depends on the aperture of the Lens, the quantity of the light varying as the well-known law of the square of the aperture, so that all things being equal, a Lens with an aperture of one diameter will require four times the exposure of a Lens with an aperture of twice that diameter; this consideration points out the limit of the value of a Single

Achromatic, or View Lens. When very rapid exposures are required, we must have larger apertures than the Single Lens will allow, and to obtain these we must use the Doublet Lens.

The Doublet Lens is made in various forms to answer various purposes ; but whether called a Rapid Symmetrical, Wide Angle, or Rapid Rectilinear, the principle of its construction is the same ; a second lens is placed behind the first, and so shaped as to collect the rays which a single lens fails to utilize, and consequently increased rapidity is obtained. To sum up : If pictures of still life or general landscape views requiring moderate exposures are wanted, a View Lens will give fair results ; but for pictures of moving objects, requiring short or instantaneous exposures, a Doublet must be employed. In selecting a Rectilinear or Symmetrical Lens, remember that its focus should about equal in length a line drawn across the longest diagonal of the plate to be covered. When it is desired to photograph a building in the distance, a lens of one size larger than that ordinarily used should be employed, or the subject will not be obtained in adequate size. If a Rapid Rectilinear lens is being used on a long focus camera, the same effect may be obtained by unscrewing the front combination, and using the back lens alone. For near objects, a Wide Angle lens should always be used. Besides the Rectilinear, and Wide Angle Lens, with which views and groups may be taken, and paintings and drawings copied and enlarged, there is the Portrait Lens, having a still larger aperture, and working with proportional rapidity. This may be used for view-taking, but it is necessary to stop down the aperture very much, creating objections which the Rectilinear combination is free from.

### THE DARK ROOM.

A Dark Room is, of course, necessary, and for our use it must be *really dark* ; the faintest ray of white light perceptible to the eye, after the observer has remained some few minutes in the room, will inevitably fog a rapid plate. The window, if window there be, should be nearly covered, a space of not more than a foot square being allowed to remain, and this must be shielded by two or more thicknesses of "Non-Actinic Medium." A Dark Room Lantern, which will yield a uniform light, is however recommended, as daylight is not always the same. The artificial light enables a better judgment to be formed of the progress of Development and the density of the negative. In order to test the condition of the Dark Room, put a plate in a dark slide, and after drawing out the shutter half-way, expose it for 30 seconds, at a little distance from the source of light. Then develop and fix as instructed further on. If the light be good, both halves of the plate will be perfectly transparent ; if bad, the exposed half will be "foggy," in which case the light must be altered and re-tested.

The door of the room must fit quite tightly, and be provided with an inside fastening.

A shelf or two will be necessary and it is better to have a

sink with water laid on, but this is not an absolute necessity. A pail and small can of clean water will answer very well.

The importance of cleanliness cannot be overrated, and a towel should hang by so that the fingers may be dried, and no wet get to the dark slides or plate boxes.

Other little "dodges" will occur to the operator as he progresses in his work.

#### THE DRY PLATES.

Of these there are so many brands and rapidities that we will not confuse our amateur friend by attempting a description. This, however, is good advice:—At first use Slow or "Landscape" Plates, and keep to one make until a good picture can be produced. By degrees practice will enable the operator to try a more rapid plate, and make slight modifications in the strength of the Developer, etc.

For a beginner's use, the "Trafalgar" *Landscape* Dry Plate will be found most satisfactory, the advantage over other plates being due to their being slower, and less ready to fog through inexperienced handling and errors of judgment in exposure.

We will suppose now that the Dark Room is ready, and all requisite materials at hand, and the beginner ready to proceed to take the first picture. Take the Dark Slides into the Dark Room with the box of "Trafalgar" *Landscape* Dry Plates. Carefully open the latter, and transfer the plates to their proper position in the slides, film sides towards each sliding shutter. Handle the plate by its edges only, as finger marks are likely to show in the finished negative. Brush over each plate lightly with a camel hair brush (kept for that purpose only), to remove any dust from the film, which if allowed to remain would produce "pin-holes."

#### PICTORIAL EFFECT.

In taking a photograph, it should be remembered not only to select an interesting subject, but also to give considerable attention to the point of view from which the subject is to be photographed; for it is in this that the difference between the artistic and the mechanical photographer becomes manifest. In order to assist the judgment of the amateur, we give a few rules that should be attended to.

1.—Perhaps the first principle to be noted in landscape delineation, is that of the height of the horizon. For fine pictorial effect this should never be in the centre of the subject—but either above or below it.

If the subject requires a high horizon, it will be safe to keep it about two-thirds of the height of the plate; if it requires a low horizon, as for coast scenes, about one-third or three-eighths of the height of the plate.

2.—Avoid having each side of your picture alike.

3.—Have the subject well illuminated with properly balanced light and shade; should the shadows be too deep, the detail of the picture will be lost.

4.—Remember, a curved line is more pleasing than a straight line, and a pyramid is pictorially better than a square.

### FITTING UP THE CAMERA.

Having set up the camera so as to secure the best point of view, observe, further, that the vertical lines are vertical, and horizontal lines are horizontal. This work is greatly facilitated by having a circular level fixed on the top of the camera. The next point to attend to is to carefully focus the image upon the ground-glass screen. In order to secure perfect accuracy in this operation, a Focussing glass, *having a very flat field of view*, should be employed. Wood's recently perfected "Aplanatic" Eyepiece, is very strongly recommended for this purpose. This being done, cover the lens with its cap, remove the screen, and insert the dark slide. Now cover the back of the camera with the focussing cloth, and carefully draw out the shutter of the dark slide; a few seconds being allowed to elapse, that the apparatus may cease to vibrate, uncover the lens and make

### THE EXPOSURE.

Upon this being correctly timed everything depends, and the greatest pains should be taken to obtain the power of intuitively realising the required exposure. This power comes with observant practice, and only general remarks rather than rules can be made. In the first place always try to give a full, rather than a short, exposure. Over-exposure, skilfully treated, may give a passable negative, but under-exposure no skill can cure. It is well to learn how to count seconds. This is most easily done by fastening a small bullet to the end of a thin piece of string and suspending it upon a nail at  $39\frac{1}{2}$  inches from the centre of the bullet. Each beat of this simple pendulum, when vibrating in a small area, will give a nearly accurate measurement of one second. By observing the vibrations it is possible to acquire the habit of counting seconds with fair accuracy. The Trafalgar Actinometer and Ackland's Exposure Scale will be found invaluable at this stage of the proceedings.

In order to assist the subsequent development of exposed plates, particulars of exposure, &c., should be entered in a "Photographer's Note Book."

### WEIGHTS AND MEASURES OF THE BRITISH PHARMACOPŒIA.

The following weights and measures are used in Photographic Chemistry :—

#### WEIGHTS.

1 Grain	gr.	
1 Ounce	oz.	= 437.5 grains.
1 Pound	lb.	= 16 oz. = 7,000 grains.

Where a dram weight is given in a Photographic formula, its weight is to be taken as equal to 60 grains.

#### MEASURES OF CAPACITY.

1 Minim	min.	
1 Fluid Drachm	fl dr.	= 60 minims.
1 Fluid Ounce	fl oz.	= 8 fluid drachms.
1 Pint	0	= 20 fluid ounces.
1 Gallon	0	= 8 pints.

## DEVELOPMENT.

The plate being exposed, two modes of Development are open to us, "Alkaline," and "Ferrous Oxalate." At first it is certainly advisable for the beginner to use ready-made solutions. By doing so he saves the expense of scales, weights, measures, &c., and will know that if he has failures, it is due to exposure of the plate, and not to wrongly mixed solutions.—

First in importance and usefulness stands the

## ALKALINE DEVELOPER.

*Dissolve 4 ozs. of Sulphite Soda in 12 ozs. of boiling water and allow it to cool to about 70° F., then neutralise the alkalinity of the Sulphite Soda with Citric Acid. To do this, add the Citric Acid gradually, stirring between each addition, dip a Stirring Rod into the mixture and draw a line with the wetted point across a slip of Clark's Neutral Test Paper. If the paper, where wetted, turns blue, more acid must be added, but if too much acid has been added, the colour of the paper will become red; however, the happy medium is easily reached with a little care, so that the liquid ceases to alter the colour of the test paper, thus showing the point of neutrality to be exactly reached. If Clark's Test Paper be not available, use red and blue Litmus Paper. Then to this neutral solution add 1 oz. Pyrogallic Acid.*

Label the above **P**.

---

Bromide Potassium	...	...	...	...	...	...	1 oz.
Distilled Water	...	...	...	...	...	...	16 "
Dissolve and Label <b>B</b> .							

---

Liq. Ammonia	...	...	...	...	...	...	1½ oz.
Distilled Water	...	...	...	...	...	...	16 "
Mix and Label <b>A</b> .							

---

To form the Developer employ these stock solutions as follows :—

For a Plate	<b>P</b>	<b>B</b>	<b>A</b>	To every 2 ozs. of Water.
1. Under Exposed	½ dr.	½ dr.	½ dr.	
2. Normally "	½ "	½ "	½ "	
3. Over "	1 "	½ "	½ "	

The above three proportions will at once show the general rule to be observed in dealing with plates differently exposed. Of course, when practice has taught correctness in exposure, the "No. 2" strength will be used, without doubt.

Let us suppose that we are about to develop the first plate :—Place the negative in an ebonite developing dish, film upwards, and flow over it the "No. 2" Developer. If the image *flashes out immediately*, throw away the solution, and flood the plate with plain water. Then prepare the "over-exposed" solution, "No. 3," and patiently watch the result for about five minutes, and if the picture shows very indistinctly, and without contrast, we must regard it as a failure, though by prolonging the development, perhaps another ten minutes, a better result may follow.

If, on the other hand, after the application of the "No. 2" solution for a period of about three minutes, no image appears, we may infer *under-exposure*—then throw away the "normal" solution, and apply the "under-exposed" or "No. 1" Solution.

If any air bubbles appear on the film, they must be broken by the finger or a camel hair brush, for if allowed to cling to the plate, they will cause transparent spots. Another point to remember is—always keep the Developing Dish rocking to and fro. When many plates have been developed in succession by the alkaline formula, the fingers will be stained, but the brown marks can be easily removed, *when new*, by rubbing the fingers well with the Clearing Solution described further on. The quantity of alkaline developer given in the above formula is enough to develop 200 "quarter plates."

We will now describe the

#### FERROUS OXALATE DEVELOPER.

Neutral Oxalate of Potash	...	...	...	...	10 ozs.
Water	...	...	...	...	30 "

Dissolve and Label **O**.

Proto-Sulphate of Iron (Ferrous Sulphate)	...	...	3 ozs.
Citric Acid	...	...	60 grs.
Water	...	...	10 ozs.

Dissolve and Label **F**.

These solutions are used in the proportion of three parts of O, and one part of F. Thus to develop a  $\frac{1}{2}$  plate, pour into the measure first  $1\frac{1}{2}$  oz. of O, and then  $\frac{1}{2}$  ounce of F, and flow it over the negative in the developing dish. If the exposure has been correct, a very clean and sparkling image will result; but this developer is capable of only slight modifications, and affords but little latitude in dealing with under or over exposure. The same solution may be used for two or three plates if used within half an hour.

#### FIXING.

It is best to wash off all traces of the Developing Solution from the negative before Fixing. Dissolve

Hyposulphite of Soda	...	...	...	...	5 ozs.
Water	...	...	...	...	20 "

Keep this solution in a wide mouth bottle, as it is easier to pour to and from the Fixing Dish. It may be used again and again until a brown discoloration occurs, when it should be thrown away. Place the negative in a porcelain dish, and pour the fixing solution over it. The negative should remain immersed in this solution until all the whitish opacity is removed, and the back of the film appears equally dark.

#### WASHING.

The negative having been fixed, may now be taken into the daylight, and should be thoroughly washed in frequently changed water for at least two hours. A Washing Trough is

the most perfect means for complete removal of all traces of Hypo-soda, which if left in the film will bring about fading. After washing, the negative should be placed in the Draining Rack to dry slowly.

**OBSERVE.**—The dishes used for developing and fixing are not to be employed interchangeably.

#### THE ALUM OR CLEARING BATH.

It is recommended that *all negatives* be placed for a short time in the Alum or "Clearing" Bath, to prevent what is called frilling; and there is an incidental advantage in so doing when a pyro-developed negative, instead of coming out clear, brilliant and transparent, appears dirty brown and stained. Of course, if the instructions given above are followed to the letter, a pyro-developed negative will be just as clear and free from stain as one developed by ferrous oxalate. When the reverse is the case, it most frequently arises from impure chemicals, dirty vessels, insufficient washing between development and fixing, or allowing light to fall upon the plate before fixing is complete.

Besides clearing the film, the following formula is suitable for removing pyro stains from the fingers.

Alum	...	...	...	...	...	100	grs.
Citric Acid...	...	...	...	...	...	25	"
Water	...	...	...	...	...	5	ozs.

When a stained negative is being treated, it should be immersed until clear; but in the ordinary course twenty minutes will suffice. Thoroughly wash, and when quite dry the negative will be ready for varnishing.

#### UNDER AND OVER DEVELOPED, AND UNDER AND OVER EXPOSED, NEGATIVES.

This is a problem which the learner has frequently to solve, and it is not easy to describe the difference between these errors.

Under exposure is usually indicated when the *shadows* are weak, and over exposure when the *high lights* are weak, and the negative very thin.

In under development there are usually indications of details that might have been brought out, and with an over developed negative the film is very dark, and an almost entire absence of contrast between sky and foreground.

#### INTENSIFICATION.

It will sometimes happen that a finished negative, otherwise fairly good, is not quite dense enough to print well. The best thing to do under such circumstances is to take another; but as that is not always practicable, we have to resort to "Intensification." For this purpose two methods are available—Mercuric and Uranic Intensification.

#### MERCURIC INTENSIFICATION.

Make a solution of Bi-Chloride of Mercury (mercuric chloride) one ounce to ten ounces of water. The negative being

completely washed from every trace of the fixing agent, immerse it in the mercuric chloride solution, which will gradually whiten the image. Then take it from the dish and again wash thoroughly; after which place it in water to which five drops of strong ammonia to the ounce have been added. The image will again darken, and must be again washed and allowed to dry. This solution being a poison must be handled with care.

N.B.—Never adopt mercuric intensification if you wish to keep the negative. Sooner or later it will so fade as to be useless. When permanent intensification is required, recourse must be had to the Uranium solution, which is made with difficulty, and may be obtained in bottles ready for use.

#### URANIC INTENSIFICATION.

Thoroughly wash the negative free from every trace of Hypo, then, while moist from the washing, place it in a dish and flood it with the intensifier. Intensification will at once begin—first the high lights, and last the deep shadows. The action can be stopped by washing the negative under a tap. In judging when the intensification has proceeded far enough, it should be remembered that the negative, when dry, will be darker than when wet. Should the negative be over intensified, soaking it in water will extract the excess of Uranium.

#### REDUCING THE DENSITY OF A NEGATIVE.

The following is a good method of reducing the density of a Negative.

Take, say a pint of the ordinary Fixing Bath and drop into it thirty or forty drops of a saturated solution of red Prussiate of Potash. Immediately the negative is placed in this mixture a slight reduction of density will be observed, and a further reduction will take place by the addition of a few drops of the red prussiate solution. When the desired effect has been obtained, the negative is to be thoroughly washed and dried.

#### VARNISHING.

The negative should be warmed before a fire or over a gas or spirit flame, until the back of the hand can just bear contact with the glass. Hold the negative at one corner in the left hand, and from the bottle gently pour some varnish in an even round puddle upon the film, and by slightly altering the level of the plate, cause it to flow to each corner, and from the last corner drain off into the bottle as much of the varnish as possible. Keep the last corner still downwards, and again gently warm, so that the spirit may be driven off and the film harden.

Negatives should be stored in grooved plate boxes or paper envelopes. In the latter case avoid having a large number packed in one parcel.

Having thus brought the beginner to the successful completion of the most important part of his labours—the taking a good negative—perhaps a word or two of warning, no less than of encouragement, may here be not without its use. Let him

not, if things do not seem to go quite so well in his first essays as he hoped, at once lay the blame upon his materials—his plates, it may be, or his chemicals—begin, as many do, a vain search round the world for the wonderful developer which always goes right, or the magical plates which never go wrong. He may, perhaps, be reluctant to admit it, but in all probability the whole of his failures will spring from himself. His inexperience, his want of practice in the minutiae of photographic manipulation, will long prevent his detecting that in some little oversight, some minute not doing that which he ought to do, lies the unsuspected cause of all his disappointments. The exquisite results which now and then occur in the practice of every one, apparently accidental, show that the manufacture of plates is so far ahead of the practice of picture-making, but that rarely indeed do we get out of our materials all that there is in them. Therefore the beginner may rest well assured that careful persevering practice will eventually well repay him, in the mastery it will give over processes and materials which for a time may only seem to mock him with apparently ceaseless failures.

#### RETOUCHING.

The careful Retouching of a portrait negative very much enhances the beauty of the print. Many defects of the skin and hard facial furrows are removed and softened down. Defects in the film may also be remedied.

The operation requires great delicacy of touch, and the Art of Retouching now amounts to a profession, and is quite beyond the average draughtsman's powers. (As will be seen from the Catalogue, we are enabled to secure for our customers the most skilful work at very moderate prices.)

#### PRINTING.

For this purpose the necessities are—

Pressure Frame.	Washing Trough.
Sensitized Paper.	Cutting Shape.
Toning Bath.	Trimming Knife.
Fixing Bath.	Mounting Medium.
Two Dishes.	Cards.

The negative is placed in the printing frame film side upwards, and upon it is laid the sensitized paper face downwards. Upon the back of the paper a piece of thin cloth should be laid, so that when the hinged back of the frame is replaced and fixed by the springs, there is intimate contact between the paper and film. If the negative is thin, place the frame in a subdued light ; if dense, a more brilliant light will be necessary. From time to time examine the progress of the print by opening one-half of the hinged back, and when the picture appears decidedly darker than it should be when finished, remove it. Keep it in a dry book until a few more prints have been taken. After sunset they should all be thrown into a large clean pan of water, and the water changed again and again till all milkiness ceases.

## CLOUDS, VIGNETTING, AND MASKING.

Many pictures are made more perfect and attractive by the process of Vignetting, which consists in shading off the margin. For this purpose a few Vignette Plates should be included in the outfit.

For Cloud effects a "Cloud Negative" must be used, and many a landscape is increased in value by the beautiful results which are so easily obtained in the following manner:—

1.—Stop out or mask the sky, so that it remains quite white, or full justice will not be done to the cloud negative.

2.—Place the cloud negative in contact with the blank sky of the print, and lay them on a flat table in a soft light, with a piece of glass on top of the cloud negative, and covering the sky only; then place a focussing cloth (or mask) over the foreground, covering the joining as carefully as possible. No notice need be taken of foliage or dark objects of any kind in masking. (A printing-frame is not necessary.) They can be used (*either side up*) to suit the light on the subject.

Masking gives another pleasing effect to pictures. Ovals and oblongs, having rounded corners ("cushion" shaped), are cut very accurately in black paper, and laid between the negative and sensitized paper. This leaves the edge of the print quite white, and on this white edge fern leaves or designs may be printed. The first impression in the centre of the paper is covered up by the disc which is supplied, and exactly corresponds to the opening in the mask. Or, instead of designs being printed, the picture may be covered by the disc, and the white edge allowed to darken in the light, to any extent the operator may deem most artistic.

A box of assorted Masks and discs can be obtained for one shilling.

### TONING BATH.

Chloride Gold	...	...	...	...	...	1 gr.
Acetate Soda	...	...	...	...	...	20 grs.
Water	...	...	...	...	...	8 ozs.

The prints being well washed, place two or three in the toning bath, continually moving them about until the reddish colour of the image assumes a warmer and more pictorial tone. The amount of tone may be varied to suit the fancy, and the moment the desired effect appears, the print should be removed and thrown into a pan of water. When all the prints are toned they must be placed in the

The above bath requires to be made twenty-four hours before use. If the bath is required for immediate use, substitute a similar quantity of Phosphate of Soda for the Acetate of Soda.

### FIXING BATH.

Hyposulphite Soda	...	...	...	...	...	5 ozs.
Liquor Ammonia	...	...	...	...	...	2 drms.
Water	...	...	...	...	...	30 ozs.

Considerable apparent change of tone will be noticed, but if the print has been properly dealt with, this need not cause alarm, as after washing and drying the tones return.

### WASHING.

This subject quite needs a heading, as most of the failures in the practice of photography are due to dirty manipulation; unless at each stage thorough washing is made, stains and fading will result. This is especially the case with prints, which after fixing should lie in water, *frequently changed*, for 24 hours. The "Godstone" Automatic Washing Trough is recommended for this process.

It is quite self-acting, and, when the supply of water has been adjusted it will continue discharging the water contaminated with hypo, or other chemical, until the water supply is exhausted. With the AUTOMATIC TRAY, "B" size—if a full drop a second is supplied for 10 or 12 hours—ten or a dozen prints 5 by 4 will be found to be well washed, providing each print is rinsed in a dish when taken from the hypo before being placed in the GODSTONE TRAY.

### MOUNTING AND BURNISHING.

After washing, all that is necessary is to take the prints from the trough and lay them between blotting-paper; when dry, trim with cutting shape and knife, and mount on cards with the Trafalgar mounting medium.

The fine surface which makes our album pictures so attractive is produced with the "Burnisher."

The prints having been mounted and allowed time to dry, are lightly coated by means of a cotton wool pad with a lubricant composed of 5 grains of white curd soap cut into shreds and dissolved in 1 oz. spirits of wine.

The burnisher is then to be warmed and the prints are passed under the roller, face downwards, beginning at one corner, the process being afterwards repeated from another corner.

To get a highly glossy surface to unmounted prints, lay them while wet on a glass plate that has previously been rubbed over with powdered talc, and carefully squeeze away the moisture. When the prints are dry they may be removed from the glass by lifting one corner gently with a knife.

### DIRECTIONS FOR USING WOLFF'S ADHESIVE MOUNTS.

The Photographic Prints, which should be trimmed before toning, are taken from their final washing and the superfluous water removed from both sides by means of clean blotting paper.

The print is then quickly placed in position on the mount, covered with a piece of clean paper, and pressed into close contact in the usual manner. When it is required to mount Prints that have been dried, they must be immersed in water for a few minutes, and then treated as above.

It is important that the print should not remain long between the blotting papers, or else it will become too dry, and not adhere well.

### READY-MADE SOLUTIONS.

These solutions are enumerated in the Chemical List of annexed Catalogue, and will be found of great convenience to those whose time is limited. (See page 54.)

## OTHER PRINTING PROCESSES.

Of these there are a great many. The Photographic publications every week have some new tidings of advances made in "Contact" Printing, &c. But in this short paper, intended only to assist the beginner, the process could hardly be dealt with satisfactorily. In most of them great nicety in developing and toning is required, for the picture is made rapidly, and unless each stage of the process is accurately treated, the result is somewhat unsatisfactory.

For those, however, who are inclined to experiment, one or two of the easier papers are described.

### RIVOT'S SELF-TONED PAPER.

With this paper it is necessary to print a *trifle deeper* than a *finished* picture should be. Wash the prints before fixing. Put the prints into the fixing bath composed of hyposulphite of soda, 4 ozs. ; water, one pint, and leave them in this bath, in motion, like other silver prints, for fifteen minutes. They must then be washed similar to other prints, in several changes of water. When all the prints are thoroughly washed, lay them between sheets of white blotting paper, *well pressed*, and then dried in a very hot oven, or under a hot iron, or any available heat. The greater the heat the deeper and brighter the tone.

No notice whatever should be taken of the colour of the prints until the final operations are completed.

These prints are as permanent as other silver prints if they are well fixed and thoroughly well washed.

### WOOD'S FERRO-PRUSSATE PAPER.

For landscape work, and some portraits, the "*Ferro-prussiate*" paper yields very pretty blue prints. The exposure is very long, say twenty minutes in sun light, and only negatives with decided contrasts give good results. After exposure all that is necessary is to wash in water until the whites show purely. If any difficulty arises in getting clean white in the high lights, a slight trace of Carbonate of Soda may be put into the washing water.

### WOOD'S FERRICYANIDE PAPER.

The positive or "*Ferricyanide*" paper prints more rapidly, but requires development and fixing. It is not suitable for printing from negatives, but architects and others wishing to reproduce plans and tracings in *fac simile* find it most useful. The directions for its use are as follows :—

EXPOSURE should be made in a printing frame giving equal pressure all over the surface, from five minutes in bright sunshine, to forty minutes in dull or rainy weather.

DEVELOPMENT :—From one to two minutes in a solution of one ounce each of *Red* and *Yellow* Prussiate of Potash, dissolved in ten ounces of water.

Correct exposure will bring out the lines of the tracing at once, clear and strong, as soon as the print is put on the developer. Under-exposed prints show thick and indistinct lines, whilst over-exposure produces faint lines.

**FIXING** :—In a Bath of ordinary sulphuric or hydrochloric acid, one ounce of either to ten ounces of water.

Slight stains of blue on the finished print are removed by using a stronger acid solution, applied to the discoloured parts.

## EASTMAN'S BROMIDE PAPER FOR CONTACT PRINTING.

Printing with this paper can be obtained by exposure of the negative in an ordinary printing frame, for ten or twelve seconds in front of an ordinary gas flame.

### FORMULA FOR DEVELOPING IN BLACK AND WHITE.

No. 1.		No. 2.	
Oxalate of Potash ...	1 lb.	Proto-Sulphate of Iron ...	1 lb.
Boiling Water ...	48 ozs.	Boiling Water ...	32 ozs.
		Sulphuric Acid ...	1 dram.

Acidify with sulphuric acid. Test with litmus paper.

No. 3.	
Bromide Potassium ...	1 oz.
Water ...	32 ozs.

These solutions keep separately, but must be mixed *only* for immediate use.

### TO DEVELOP.

Take in a suitable tray—No. 1, 6 ounces; No. 2, 1 ounce; No. 3, 1 dram.

*Mix in the order given*; use cold. After exposure, soak the paper in water until limp; then immerse in the developer.

The image should appear slowly, and should develop up **STRONG, CLEAR and BRILLIANT**. When the shadows are sufficiently black, pour off the developer and flood the print with the

### CLEARING SOLUTION.

Acetic Acid ...	1 dram.	Alum ...	1 lb.
		Water ...	32 ozs.

Do not wash the print after pouring off the developer and before applying the clearing solution. Use a sufficient quantity to flow over the print, say two ounces for an 8 x 10. Allow it to act for one minute, and then pour it off and apply a fresh portion, repeating the operation a third time, then rinse and immerse in the

### FIXING BATH.

Hypo-sulphite Soda ...	3 ozs.	Water ...	16 ozs.
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Wash thoroughly for one hour and hang up to dry. Use fresh developer for each print. With a glass bottomed tray seven ounces of developer are sufficient for a 25 x 30 print.

**OBJECT OF CLEARING SOLUTION.**—The object of the clearing solution is to prevent the precipitation of the iron from the developer in the fibre of the paper. This can only be done by keeping the paper acid while washing out the developer.

If **BLISTERS** appear after fixing, they may be avoided by using a little common salt in the first washing water after fixing. The hypo must not be stronger than three ounces to sixteen ounces of water.

**NO TONING REQUIRED.**—With Eastman's Permanent Bromide Paper, the final tones are obtained entirely by

development, and range from a soft gray to a rich velvety black, depending somewhat upon the density of the negative and the quality of the light used in printing.

**CLEAN DISHES. CLEAN HANDS.**—The faintest trace of Hyposulphite of Soda or of Pyrogallic Acid is fatal to good results with Bromide Paper, and the operator cannot be too careful to avoid any contamination. *The tray used for developing with oxalate should never be used for anything else.*

### WOOD'S "TRAFALGAR" OPAL PLATES.

The following is the method of developing these plates for Contact Printing or Enlarging. Exposure for Contact Printing, about 30 seconds, at four feet from a gas jet.

#### DEVELOPING.

Protosulphate Iron ...	3 ozs.	Citric Acid ...	60 grs.
		Water ...	10 ozs.
Mix the above and label F.			
Neutral Oxalate Potash ...	10 ozs.	Water ...	30 ozs.
Mix the above and label O.			
Bromide of Potassium ...	1 oz.	Water ...	16 ozs.
Mix the above and label B.			

#### FIXING.

Hyposulphite Soda ...	5 ozs.	Water ...	20 ozs.
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#### CLEARING.

Citric Acid ...	$\frac{1}{2}$ oz.	Alum ...	$\frac{1}{2}$ oz.
		Water ...	8 ozs.

**TO DEVELOP.**—Take  $1\frac{1}{2}$  ozs. O,  $\frac{1}{2}$  oz. F,  $\frac{1}{2}$  drachm B, and flow over the Plate in the Dish.

The Plate, after being rinsed, to be placed for ten minutes in the fixing bath.

Wash the Plate, and place it in the clearing bath to remove the yellow stain.

The Plate is to be again washed, and then carefully dried.

### LANTERN TRANSPARENCIES.

Of all the processes, that of preparing slides for the Magic Lantern is the most engrossing. In the winter, we are enabled to reproduce the pictures taken on our summer tour, and can with pleasure and entertainment re-view the scenes by throwing them upon the screen with a Euphaneron or other optical Lantern. Few difficulties occur when the operator regards the instructions set down. The great secret for success is cleanliness. Clean dishes, clean measures, clean solutions, plenty of washing, and exact proportions.

#### DIRECTIONS FOR THE "TRAFALGAR" GELATINO CHLORIDE PLATES.

For the successful manipulation of these plates, the following accessories and solutions are necessary:—Mahogany pressure frame, with flap front; gummed binding strips; magnesium ribbon; two dishes; glass measure; developing solution; fixing solution; clearing solution; mats, round and square shaped; covering glasses.

Place over the opening of the pressure frame the portion of the negative to be represented, then with gummed paper fix

the negative to the wood work, and lay the card frame into position. Now go into the Dark Room, which may be, with safety, twice as light as when Bromide plates are being used; and into the opening of the card place the Chloride plate, film downwards.

The felt pad and the wooden back will generally give sufficient pressure, though sometimes a small wad of wool may be necessary to ensure the closest contact between the two films, which is, of course, most essential in making a sharp transparency. The exposure is best made in the Dark Room by burning magnesium ribbon. Stand the frame up, and burn an inch of the ribbon at a distance varying from one to three feet, according to the density of the negative.

Should a gas flame be the source of light, an exposure of ten to twenty seconds will be required. If the printing be done in a camera, the exposure would be about twenty minutes.

For development, two solutions should be prepared as follows :

No. 1.					
Proto-Sulphate of Iron (Ferrous Sulphate)	...	...	...	...	1 oz.
Distilled Water	...	...	...	...	5 "
Citric Acid	...	...	...	...	10 gr.

No. 2.					
Neutral Citrate of Potash	...	...	...	...	2½ oz.
" Oxalate of "	...	...	...	...	½ "
Distilled Water	...	...	...	...	5 "

After exposure lay the plate film upwards in a dish. Mix half an ounce each of Nos. 1 and 2, and quickly flow the mixture over the film. If the plate has been properly exposed, the development should be complete in about one minute.

To judge the density of the image, a subdued white light may be employed for a second or two at a distance of three feet, when the development is nearly complete, but care should be taken not to let too much light fall upon the plate.

If warm tones are desired, prepare—

No. 3.					
Carbonate of Ammonia	...	...	...	...	1 oz.
Citric Acid	...	...	...	...	3 "
Water	...	...	...	...	5 "

and use No. 3 instead of No. 2.

After development, well wash the plate and immerse it in some clean fixing bath of following strength :—

Hyposulphite Soda	...	...	...	...	1 oz.
Water	...	...	...	...	5 "

The fixing will take place very rapidly, and after again washing, the brilliancy of the plate will be improved by being placed for a few minutes in the—

#### CLEARING SOLUTION.

Alum	...	...	...	...	½ oz.
Citric Acid	...	...	...	...	½ "
Water	...	...	...	...	8 ozs.

NOTE.—Always use clean, fresh solutions; keep the development and fixing dishes quite separate, and carefully wash them after each operation.

The solutions for the above process may be obtained ready for use.

## ENLARGING.

It is somewhat difficult to lay down any distinct directions upon this point, as each operator has some end in view unlike another. We will, however, endeavour to set before the reader a few remarks as to the methods generally employed :—

**To make an enlarged Negative from a small one.**—Let us assume that a quarter-plate negative ( $4\frac{1}{2} \times 3\frac{1}{2}$ ) is to be enlarged up to whole-plate ( $8\frac{1}{2} \times 6\frac{1}{2}$ ). The smaller negative must be fixed before a hole in a shutter, or other contrivance, so that a steady white light may equally illuminate the entire picture. Now set up the camera and carefully focus at such a distance that the image of the small negative shall just cover a half-plate, ( $6\frac{1}{2} \times 4\frac{1}{2}$ ). Expose and develop. The result will be a positive transparency. Any defects or portions of the picture which might be improved by touching up should be carefully seen to before proceeding to complete the enlargement, which is done by placing the half-plate positive transparency in the same position as the quarter-plate negative was, and again adjusting the camera until the picture on the screen assumes the desired size, viz. :— $8\frac{1}{2} \times 6\frac{1}{2}$  : Expose and develop.

And from this negative we can print as in the case of the original negative.

In the case of enlarged portraits, a certain amount of retouching will be necessary.

Another method is to prepare a transparency with a chloride plate by contact printing, and then enlarge up to the size required as before described.

Ordinarily an enlarging camera is used in these operations, the lens being fixed in the centre of the body ; but as every amateur does not possess an enlarging camera, it is possible to make a camera of the dark room itself.

The positive transparency is fixed up as before, and a long shelf or bench must be arranged to support the lens at one point and focussing glass at another—each being adjustable. When the desired picture is seen upon the focussing glass, the transparency must be carefully covered up so that no light may enter the room and a plate inserted in place of the focussing glass. To make the exposure, uncover the transparency—recover and develop.

**Direct Enlargement by Artificial Light.**—We will assume that a quarter-plate negative is to be enlarged from. Fix the negative in the stage of a lantern having a condenser of adequate size, and the light perfectly enclosed, and very carefully focus the picture upon a flat board, covered with white paper. Having exactly focussed, cover the objective of the lantern, and in exactly the same position as the focussing board, place another board having the sensitized paper flatly stretched upon it, pause a few seconds so that all vibration may cease, and gently uncover the lens.

The exposure may require from 12 to 120 seconds. Generally 20 seconds will be the average with pure negatives and bromide papers. It is a good plan to make a few trial exposures upon a

number of small pieces of the sensitive paper and making notes upon the back of each piece.

Although instructions are contained in the packages, it may be convenient if we give a formula generally applicable for developing gelatino-bromide paper, or opal plates.

**DEVELOPER.**—Saturated Solution of Neutral Oxalate of Potash, 4 ozs.; Saturated Solution of Sulphate of Iron, 1 oz.; 60 grs. to 1 oz. Solution of Bromide of Potassium, or Ammonium 6 min.

**Quantities necessary for Saturation.** — Sulphate of Iron, 12 ozs. to a pint of *boiling water*.

Neutral Oxalate of Potash, 8 ozs. to a pint of *boiling water*.

**NOTE.**—Two or three drops of sulphuric acid to each pint of iron solution will keep it from oxydizing. Half an ounce of loaf sugar added to each pint of potash solution, will increase the richness of the shadows in the developed print.

**FIXING SOLUTION.**—Hyposulphite of soda, 1 oz. to 6 ozs. of water.

**CLEARING SOLUTION.**—Sulphuric acid, 1 oz. to 80 ozs. of water. Soak the Paper, or Opal Plate, a few minutes in water before developing, to allow of the developer acting evenly; drain off the water and develop, which will take from three to five minutes, supposing the exposure to have been correctly timed; when developed, well rinse off the developer. Fix from ten to fifteen minutes, and wash for about six hours in changing water, then soak in clearing solution for two or three minutes, or until such time as the slightly yellow tint disappears; again wash for about two hours, and dry spontaneously.

**N.B.**—A saturated solution of common alum should be used in hot weather, or when any tendency is shewn in the film of gelatine to blister. Soak in the alum for five minutes after washing off the developer; before fixing well wash to get rid of the Alum.

**Direct Enlargement by Daylight.**—For daylight enlargement all light must be excluded from the room in which the work is to be done, except such as comes through an aperture left in the window, in front of which the negative is placed. Outside this aperture a mirror is fixed, and inclined at such an angle as to reflect the light through the negative into the room. A camera, from which both ground glass and dark slides have been removed, is placed at a suitable distance in front of the negative, by which means an enlarged image of the small negative is projected upon a sheet of paper attached by drawing pins to a vertical improvised easel. The body of the camera here serves only as a support to the lens. It is indispensable that no light shall obtain admission into the room save that which passes through the lens, and to ensure this the space between the negative and the lens should be enclosed in a black hood.

If the enlarging lens be one of the ordinary rapid type in general use, no further arrangement requires to be made; but if a portrait combination be employed, its position must be

reversed so that the back lens shall be next to the negative. After the image has been sharply focussed upon a sheet of plain white paper, the lens must be capped with orange paper or glass, and the sensitive sheet fastened in its place. Uncapping the lens an exposure must be given, the precise duration of which it is impossible to indicate with any approximation to accuracy unless all the conditions were known, these conditions embracing the density of the negative, the intensity of the light, the nature of the lens, and the degree of amplification. Nothing but experience can dictate the exposure, but such experience can be gained by one or two trials made on a scrap of paper. Desiring to enlarge a quarter-plate to  $12 \times 10$  size, we once gave an exposure of ten seconds, but it proved too much; we reduced the time by one half, and a good enlargement was the result, although the light was far from being good, and the lens was not one possessing great rapidity of action. This must be borne in mind, that whatever exposure suits a given size of enlargement, say  $12 \times 10$ , if a sheet of double these dimensions is to be filled, four times such exposure must be given.

#### DIRECTIONS FOR USING EASTMAN'S STRIPPING FILMS.

The recent introduction of Sensitive Films as a substitute for Sensitive Glass Plates affords great advantages as to portability. The films are made in long lengths, and also in Slips of the Standard Sizes. In the former case a special Dark Slide, with two rollers, is required for exposing these films in the camera, but with the latter, the ordinary dark slide can be used—the films being placed on a special carrier.

The American Stripping Film consists of a film of insoluble sensitive gelatine emulsion attached to a paper support by means of a layer of plain soluble gelatine. The paper serves as a temporary support during the operations of exposure, development, fixing and washing, after which the film is laid face down on a prepared sheet of glass, and the paper removed by warm water, which dissolves the soluble layer and leaves the image-bearing film on the glass. The discarded paper is then replaced by a prepared sheet of gelatine, called a *stripping skin*, and the whole stripped, when dry, from the glass. Full details of the operations above outlined are given below.

This process gives a clear, transparent, flexible negative of superior printing quality, having all the advantages of glass without its fragility, and about one-fiftieth of its weight. The negatives print equally well from either side, thus lending themselves perfectly to the carbon zincographic and photo-mechanical processes.

Transparencies for reproducing purposes or for window ornamentation are produced with great ease and beauty, by contact in an ordinary pressure frame. The American film requires one-third or one-half the quantity of developer required by a glass plate of the same size, and may be sent by post to any part of the world.

## DEVELOPMENT.

## FORMULÆ.

No. 1.—Sulphite Sodium, re-crystalised	...	...	...	6 ozs.
Pyrogalllic Acid	...	...	...	1 oz.
Boiling Water	...	...	...	32 ozs.

Dissolve the sulphite first, and, when cold, add the pyro.

No. 2.—Soda carbonate, re-crystalised, <i>not</i> anhydrous, <i>not</i> bi-carbonate	...	...	...	4 ozs.
Water	...	...	...	32 ozs.

To develop, pour into a clean tray in the following proportions:—

No. 1	...	...	...	1 oz.	No. 2	...	...	...	1 oz.
					Water	...	...	...	1 oz.

Immerse the exposed film face downwards in a tray of clean cold water. After about a minute, raise the paper and see there are no air bells on the front, after which replace it in the water, or the air bells may be removed in the water by a soft camel hair brush. When the film is quite limp, remove it to a clean tray, face upwards, and pour on the developer as with a dry plate. The image should commence to appear in 15 or 20 seconds. If the lights come slowly and with no detail in the shadows, add not more than one ounce of No. 2. If the image appears too quickly, add 10 to 20 drops of the

## RESTRAINER.

Bromide Potassium	...	1 oz.	Water	...	...	...	6 ozs.
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Keep this in a dropping bottle, or an ordinary bottle, having two notches cut lengthwise in the cork on the opposite sides, wash the film in two changes of cold water and immerse film side down, in the

## FIXING BATH.

Hyposulphite Sodium	...	4 ozs.	Water	...	...	...	16 ozs.
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*Use no alum in fixing bath.*

## WASHING.

After fixing, wash in running water for about ten minutes, a Rose tap being a convenient arrangement for this process. Or, the film may be washed by frequent changes of water, and is then ready for *Stripping*.

## STRIPPING.

While the films are washing, clean a glass plate *one half-inch larger all round* than the negative, and free from surface defects, and flow over it a thin layer of Eastman's Rubber Solution, draining away all excess, and allow the surface to dry (say for five minutes); then coat the plate with Eastman's Collodion Varnish (see directions on bottle). *The moment the varnish sets* wash well in cold water until the water runs from the surface without *any appearance* of greasiness, then place the collodion varnished plate face upwards in a dish of cold water, and bring into contact with it *under water*, the paper negative film side *downwards*; grasp the plate and film by one edge with the finger and thumb, and lift the glass with the film attached *slowly*, allowing the water to drain from the opposite side. Lay the plate upon a table, and place upon the back of the paper negative the *smooth* side of an India-rubber

"cloth" (larger than the glass), and remove all surplus water by the action of a squeegee. The squeegee should be used firmly, but *without violence*, the motion being in all directions. Remove the rubber cloth, lay the plate with the film upwards on a table, and place upon the film a double thickness of stout, clean, blotting paper. Place a board or other flat surface over the blotting paper, and on the board a weight of a few pounds. Proceed in like manner with all the washed films, always piling the last plate on the top of the blotting paper covering the previous plate, and always place on top the blotting paper, the board, and the weight. In fifteen minutes the first plate will be ready to strip, but a much longer period may elapse if desired, *provided the collodion varnish is not permitted to dry*. The films will, however, strip perfectly after a lapse of several hours, if kept as directed.

Into a flat dish put water at about 120° to 200° Fahr., and, face upwards, in this immerse the first (or bottom) plate. Rock the dish slightly, and in a minute or two the paper will be found wholly or partly floating in the water. Remove it entirely with care. Remove from the film with warm water and gentle friction with a soft hair brush or the soft part of the hand, any of the soluble gelatine that may remain attached to it. Wash well with cold water and immerse *if necessary* in the

#### CLEARING BATH.

Saturated Solution	Common Alum in Water	...	...	20 ozs.
Acid Hydrochloric	...	...	...	1 oz.

#### INTENSIFICATION.

If Intensification is *necessary*, soak the negative in a saturated solution of corrosive sublimate, wash well, and blacken the image with a solution of 10 drops of strong ammonia to one ounce of water.

All intensified or cleared negatives should be *very carefully* and *very thoroughly* washed in running water or in frequent changes of water for not less than two hours.

#### APPLYING THE STRIPPING SKIN.

In a flat dish soak one of the stripping skins in cold water (in very dry climates soak in a bath of water containing five per cent. of glycerine and a few drops of carbolic acid). Place the plate under the skin in water and bring the skin into contact with the negative. Grasp the skin by the edge with the finger and thumb and lift *slowly*, allowing the water to drain from the opposite side. Remove all surplus water by the gentle action of a squeegee. Set the plate aside to dry *gradually*, say for four or five hours at ordinary temperatures. Trim the edges of the negative with the point of a sharp knife and strip it from the glass. You will then have a varnished negative. Adhering rubber solution may be removed from the face of the negative or the glass by a pledget of cotton wool saturated with benzine.

#### OBSERVE.

It is of the utmost importance that the Stripping Skin should

not be soaked too long—otherwise the glycerine will be entirely removed, and the finished negative will be hard and brittle; two minutes should be amply sufficient.

The *back* of the dried Stripping Skin may be coated with Collodion before the negative is removed from the glass, if thought desirable, or if a varnished negative is not required, the use of the Collodion Varnish may be dispensed with entirely.

Solutions used in developing the films should not exceed 75° Fahr. and the hands should only touch the films at the corners while wet to prevent softening of the soluble gelatine layer which holds the film to the paper.

For photo-mechanical printing processes and carbon single transfer, the negatives may be printed from while on the glass.

Printing from stripped film negatives may be done from either side if required, but the side that was in contact with the glass at the time of transfer is the correct side. The negative should be laid (preferably) on the convex side of finely ground glass in the printing frame, ground side next to negative. This method gives fine soft effects, and prevents mottling of the print, caused by partial contact of the negative with the glass.

*Alum should not be used on the films previous to stripping.*

Collodion Varnish is ordinary Enamel Collodion. The India-rubber stratum consists of:—

Para Gum ... 2 grs. Rectified Benzine ... 1 oz.

### INSTANTANEOUS PHOTOGRAPHY.

This is a very fascinating branch of the art, but it should not be attempted until the method of photographing still life has been thoroughly mastered.

In order to obtain a photograph of moving objects—such as ships, trains, races, &c.—it is necessary to employ extra sensitive dry plates, and also some mechanical means of opening and closing the lens with greater rapidity than can be done by the hand.

These mechanical means are called Instantaneous Shutters; they are fitted to the front of the lens, and the exposure is made by releasing a spring whereby the lens is uncovered, and instantaneously closed again.

One of the best of these is White's Instantaneous Shutter; it is constructed of ebonite, and is so contrived that there is an absolute period of rest during the exposure; and the duration of the exposure can be regulated by elastic springs. The movement of the shutter is so gentle that the camera is not put in a condition of tremor when the exposure is made—a fault too often present in the ordinary shutters.

The releasing of the shutter can be accomplished either by hand, or by the pneumatic arrangement. After the plates have been exposed the negative has to be developed, &c., in the ordinary manner.

### INSTANTANEOUS PORTRAITURE BY ARTIFICIAL LIGHT.

Take about 15 grains of Gun Cotton and pull its fibres apart so that the air may get freely at it, and sprinkle over it enough

Magnesium Powder so as to form a thin film (about 10 or 15 grains). This is placed on a metal plate near the camera, well raised from the ground and about 10 feet from the subject to be photographed. After focussing the camera, the lights are turned down, the dark slide opened, and the cap removed. The exposure is made by firing the gun cotton with a match.

### PHOTOGRAPHING IN STRONG SUNSHINE.

One great objection to photographing in bright sunshine is the exceedingly heavy shadows. Mr. W. Harding Warner has been able to overcome this difficulty by the employment of yellow glass discs, optically worked—either in front of or between the lenses—the effect of which is to reduce the action of the more powerful rays and to allow of the more prolonged exposure which is necessary to bring out the detail of objects in shadow. The exposure with slow plates and small stops would be from 10 to 20 seconds.

### THE SECRET CAMERA.

This is an exceedingly portable form of Camera, and will be found of great service to persons desiring to take Photographs without exciting observation.

In order that fresh plates may be inserted into the instrument, the body is separable at the bayonet joint—on the rim.

The instantaneous shutter is moved by a strong spring, which is wound up by giving a few turns to the nut in the centre of the instrument.

The exposure is made by pulling the cord at the bottom of the Camera, and after the first exposure has been made a fresh portion of the plate is brought into position by moving the hand on the front to the next number, and in this way six successive pictures can be taken on the one plate, each picture being  $1\frac{1}{4}$  inches diameter.

The plates are developed in the ordinary way, and the negatives may be enlarged to  $12 \times 10$  successfully.

### NOVELTIES.

#### THE TRAFALGAR ACTINOMETER.

The difficulty of accurately judging the actinic condition of the light is experienced by most photographers, and errors of exposure are frequently made. In order to obtain definite data on this very important matter, various actinometers have been contrived. In the Trafalgar Actinometer, a piece of specially sensitized paper is exposed, and the time required for it to assume a definite tint will serve as a guide for the exposure of the dry plates.

#### ACKLAND'S PHOTOGRAPHIC EXPOSURE SCALE.

We would direct special attention of both amateur and professional photographers to the New Exposure Scale, which has been invented by Mr. W. Ackland. This Scale will give, at a glance and without calculation, what exposure should be given under the varying conditions of light, stop, and subject.

### THE TRAFALGAR STEREOSCOPIC CAMERA.

This Camera is intended to serve either for taking Stereoscopic or Lantern pictures. May be used as a Detective Camera, and plates can readily be changed in the field. Will be ready at an early date. Particulars can then be had post free.

### PHOTOGRAPHIC LABELS.

A new series of Photographic Labels, arranged by A. A. Wood, F.C.S., is in course of preparation, and will be published at an early date.

### THE TRAFALGAR PORTABLE TRIPOD STAND.

This will be an exceedingly portable yet rigid stand. Full details will be published as soon as the patent has been secured.

### WOOD'S "CHLORO-BROMIDE" PLATES FOR LANTERN TRANSPARENCIES.

This is an extra sensitive plate for preparing Transparencies through the Camera. The mode of development is the same as that given for the Trafalgar Opal Plates.

The following illustrates the way in which the Advertisement of Wood's Photographic Novelties appears in the various Photographic Journals.

**WOOD'S**

**Photographic Novelties.**

---

**THE TRAFALGAR ACTINOMETER,**  
 Price - - 2s. 6d.

---

**ACKLAND'S**  
**PHOTOGRAPHIC EXPOSURE SCALE,**  
 Price - - 3s. 6d.

---

E. G. WOOD, 74, Cheapside.  
 HORNE, THORNTHWAITE & WOOD,  
 416, Strand, LONDON.  
 WOOD, 17, Lord Street, LIVERPOOL.

### BOOKS OF REFERENCE.

A list of Photographic Books and Weekly Journals will be found in the Catalogue.

**Descriptive Catalogue**  
OF  
**Photographic Apparatus & Chemicals,**

MANUFACTURED AND SOLD BY

**E. G. WOOD,**

*Philosophical, Photographic, and Scientific Instrument Maker,*

**74 CHEAPSIDE, E.C.,**  
**LONDON.**

**HORNE, THORNTHWAITE & WOOD,**  
**OPTICIANS,**

By Special



Appointment,

To Her Majesty,  
**416, STRAND, W.C.,**  
**London.**

**WOOD,**  
**17, LORD STREET, LIVERPOOL.**

—  
*TWENTY-SIXTH EDITION.*  
—

**FEBRUARY, 1888.**

## P R E F A C E .

---

THE success which was attained by this firm during the early days of Photography has secured it a reputation of first importance, and it is needless to remark that upon the same lines what may be termed the "Dry Plate Photographic Revival" will be treated.

**The Instructions** in the use of Photographic apparatus, which are given at the beginning of this pamphlet, have been most carefully drawn up, and that in the simplest manner possible, and have been revised by A. A. WOOD, Esq., F.C.S.

**The Catalogue** of apparatus and accessories will be found to be comprehensive, and every article of established reputation is kept in stock.

Novelties will from time to time be added as they make their appearance.

**The Cameras** and accessories are made under special supervision, by workmen of long experience, and the smallest details (so important in practice) are critically observed.

**The Chemicals** are offered at as moderate a price as is consistent with purity.

We beg to draw special attention to our "**Trafalgar**" **Dry Plates**, which, for quality and price, are not to be surpassed, they are easy of manipulation, and will give uniformly good results.

As an evidence of the excellence of our goods, we may mention the facts that **Prize Medals** were awarded to us at the Exhibitions of 1851, 1862, 1878, and 1885, and that **H.R.H. The Prince of Wales**, and many other eminent persons have honoured us by attending at our establishment to receive instruction in the fascinating art of Photography.

**Practical instruction is given, free of charge**, to Purchasers of Sets of Apparatus, and verbal explanations to all others who desire information on the subject.

**Dark Rooms** are also provided for the use of amateurs, **free of charge** at 416, Strand, London, and 17, Lord Street, Liverpool.

**Postage.**—In remitting for goods to be despatched by post it should be remembered that **transit charges are not included** in catalogue prices, and if the remittance does not allow for postage, the goods will be sent by rail.

Country and Foreign Orders should be accompanied by a remittance. Town Orders cash on delivery.

**E. G. Wood, 74, Cheapside, London, E.C.**

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## WOOD'S PHOTOGRAPHIC SETS.

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**No. 1. Wood's "Nonpareil" Set** comprises a Quarter-plate Camera, Lens, Double Dark Slide, Focussing cloth and Eyepiece, and portable Tripod Stand, all (excepting the Stand Legs) fitted into a Waterproof Sling Case. The Dry Plates, Developing and Printing Materials and apparatus, are carefully packed in a stained and polished Travelling Case, with Book of Instructions.

**£2 : 15 : 0**

---

**No. 4. Wood's Instantaneous Set**, for Plates  $4\frac{1}{2} \times 3\frac{1}{4}$ , comprises one of Wood's improved Instantaneous Cameras, constructed without loose parts, with three Double Dark Slides, Instantaneous View Lens and Shutter, with Tripod Stand or Clip, Focussing Cloth and Eyepiece, in Waterproof Case.

**£3 : 15 : 0**

---

**No. 4a. Developing and Printing Set**, for the above, comprising Dry Plates, Vulcanite Dishes, Developing and Fixing Solutions, Sensitized Paper, Printing Frame, Porcelain Dishes, Toning and Fixing Solutions, Ruby Lamp, Scales and Weights, and Graduated Measures, and Book of Instructions, packed in a stained Pine Case.

**£1 : 5 : 0**

---

**No. 5. Wood's Instantaneous Set**, for plates  $6\frac{1}{2} \times 4\frac{1}{2}$ , comprises one of Wood's improved Instantaneous Cameras, constructed without loose parts, with three Double Dark Slides, Instantaneous View Lens and Shutter, with Tripod Stand, Focussing Eyepiece and Cloth, in Waterproof Case.

**£6 : 10 : 0**

---

**No. 5a. Developing and Printing Set**, for the above, comprises Dry Plates, Vulcanite Dishes, Developing and Fixing Solutions, Ruby Lamp, Scales and Weights, Measures, Printing Frame, Sensitized Paper, Toning and Fixing Solutions, Mounting Cards, Vignette Glass, and Book of Instructions, packed in Stained Pine Case.

**£2 : 2 : 0**

---

**No. 6. The Engineer's or Traveller's Set**, for Plates  $4\frac{1}{2} \times 3\frac{1}{4}$ , comprises a best quality "Kinear" Camera, with three Double Dark Slides, a best quality Rectilinear Lens, Tripod Stand, Focussing Cloth and Eyepiece, in Solid Leather Case.

**£8 : 8 : 0**

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**No. 6a. Developing and Printing Set**, for the above comprising Dry Plates, Vulcanite Dishes, Developing and Fixing Solutions, Ruby Lamp, Scales and Weights, Printing Frames, Sensitized Paper, Porcelain Dishes, Toning and Fixing Solutions, Graduated Measures, Funnel, Filter Paper, Stirring Rod, Mounts, Mounting Medium, Brushes, Ruby Cloth, Cutting Shape and Knife, Note Book, Plate Lifters, a Set of Photo Chemicals for preparing the various Solutions, with Book of Instructions, packed in a partitioned Pine Travelling Case, with lock and key.

**£4 : 5 : 0**

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**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,

**No. 7. The Engineer's or Traveller's Set**, for Plates  $6\frac{1}{2} \times 4\frac{1}{2}$ , comprises a best quality "Kinear" Camera, with three Double Dark Slides, best quality Rectilinear Lens, Tripod Stand, Focussing Cloth and Eyepiece, in Solid Leather Case. £11 : 11 : 0

**No. 7a. Developing and Printing Set** for the above, comprises Dry Plates, Vulcanite Dishes, Developing and Fixing Solutions, Ruby Lamp, Scales and Weights, Printing Frames, Sensitized Paper, Porcelain Dishes, Toning and Fixing Solutions, Graduated Measures, Funnel Filter Papers, Mounts, Mounting Medium, Brushes, Ruby Cloth, Cutting Shape, Trimming Knife, Stirring Rod, Note Dook, Plate Lifters, Varnish, Hypo-sulphite of Soda, Alum, Pyrogallic Acid, Sulphite of Soda, Ammonia, Bromide of Potassium, Acetate of Soda, Chloride of Gold, Book of Instructions, &c., packed in a partitioned Pine Travelling Case, with lock and key.

£5 : 5 : 0

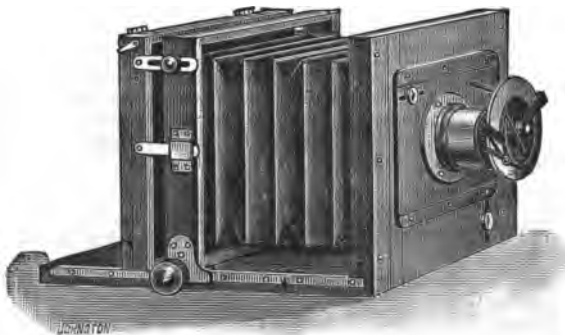
**No. 8. The Engineer's or Traveller's Set**, for Plates  $8\frac{1}{2} \times 6\frac{1}{2}$ , comprises a best quality Long Focus Camera, square, reversible, with three Double Dark Slides, best quality Rectilinear Lens, Tripod Stand, Focussing Cloth and Eyepiece, in solid Leather Case.

£18 : 18 : 0

**No. 8a. Developing and Printing Set** for the above, comprising Dry Plates, Vulcanite Dishes, Developing and Fixing Solutions, Ruby Lamp, Scales and Weights, Printing Frames, Sensitized Paper, Porcelain Dishes, Toning and Fixing Solutions, Graduated Measures, Funnel, Filter Paper, Brushes, Ruby Cloth, Cutting Shape, Knife, Mounts, Mounting Medium, Stirring Rod, Note Book, Plate Lifters, Vignette Glass, Varnish, Pyrogallic Acid, Bromide of Potassium, Ammonia, Hypo-sulphite of Soda, Alum, Acetate of Soda, Chloride of Gold, &c., with Book of Instructions, packed in a partitioned Pine Case with lock and key.

£7 : 10 : 0

### WOOD'S "INSTANTANEOUS" CAMERAS.



Superior French-polished Mahogany Bellows-body Camera, without loose parts, having Rack and Pinion for Focussing, Swing Back, Vertical and Horizontal Sliding Front, One Hinged Double Back, Achromatic View Lens with Instantaneous Shutter, and Set of Rotating Stops, and Mahogany Tripod Portable Stand, or a Cycle Clip.

			Extra Dark Slides.	Carrier.
For Plates $4\frac{1}{2} \times 3\frac{1}{2}$ complete	... £2 10 0		0 7 6	
For Plates $6\frac{1}{2} \times 4\frac{1}{2}$ complete	... 4 10 0		0 12 6	1/6
For Plates $8\frac{1}{2} \times 6\frac{1}{2}$ complete	... 6 15 0		1 0 0	2/6
For Developing and Printing Sets, (see Page 27).				

## E. G. Wood, 74, Cheapside, London, E.C.

### WOOD'S "KINEAR" CAMERAS.

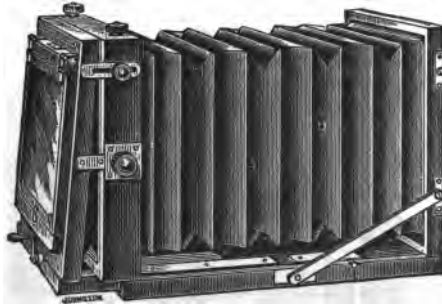


**"Kinear" Form Camera.** Long Focus, fitted with Swing Back, Rising, and Falling Front, Rack and Pinion Adjustment, Conical Leather Bellows, and Reversing Frame, with 3 Double Dark Slides.

			Extra Dark Slides.	Carriers.
$\frac{1}{4}$ Plate	£4 4 0	£0 10 6		
$\frac{1}{2}$ "	6 6 0	0 16 6		1/6
$7\frac{1}{2} \times 5$	7 7 0	0 18 6		2/0
$\frac{1}{4}$ Plate	8 8 0	1 0 0		2/6

For Brass Binding see "Universal" Cameras.

### WOOD'S "IMPERIAL" CAMERAS.



**"Imperial" Cameras, Long Focus.** Polished Mahogany, Square, Reversible, Leather Bellows, Double Swing Back, Rising Front, Winch Adjustment, with 3 Double Dark Slides.

			Extra Dark Slides.	Carriers.
$\frac{1}{4}$ Plate	£4 15 0	£0 10 6		
$\frac{1}{2}$ "	6 16 6	0 16 6		1/6
$\frac{1}{4}$ "	9 9 0	1 0 0		2/6
$10 \times 8$ "	11 11 0	1 5 0		2/6
$12 \times 10$ "	14 14 0	1 10 0		3/6
$15 \times 12$ "	18 18 0	2 0 0		4/6

For Brass Binding see "Universal" Cameras.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

# Horne, Thornthwaite & Wood,

## WOOD'S "UNIVERSAL" CAMERAS.



**"Universal" Cameras, Short Focus.** Best Quality, Polished Mahogany, Leather Bellows, Double Rising Front, Folding Base Board, Rack Focussing Adjustment, Swing Back, and 3 Double Dark Slides.

				Extra Dark Slide.	Brass Binding Extra.	Carriers.
4021	$\frac{1}{4}$	Plate	£4 4 0	£0 10 6	£1 10 0	
4022	$\frac{1}{2}$	"	5 15 6	0 16 6	1 10 0	1/6
4023	$\frac{3}{4}$	"	7 7 0	1 0 0	1 10 0	2/6
4024	10 X 8	"	9 9 0	1 5 0	1 15 0	2/6

Brass Binding to Backs 4/6 each extra.

**Short Focus "Universal" Cameras, Second Quality, Polished Mahogany, Cloth Bellows, Rising Front, Folding Base Board, Rack Adjustment, Swing Back, and 1 Double Dark Slide.**

			Extra Dark Slide.	Carriers.
4026	$\frac{1}{4}$	Plate	£2 5 0	£0 9 0
4027	$\frac{1}{2}$	"	3 10 0	0 15 0
4028	$\frac{3}{4}$	"	4 15 0	1 0 0

## LANCASTER'S CAMERAS.

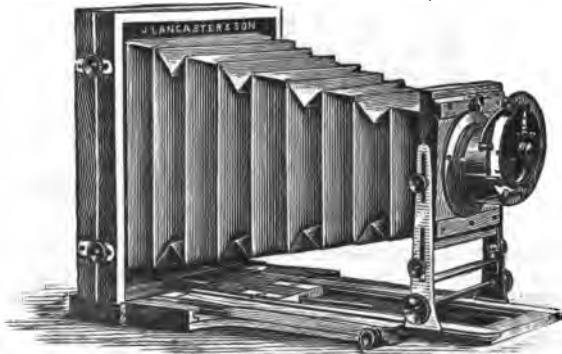


Fig. 4007.

<b>Le "Merveilleux" Camera, comprising Bellows-Body Camera,</b>					
with one Dark Slide, Lens, Stand. For $\frac{1}{4}$ plate, ...	...	...	...	...	£1 1 0
Extra Dark Slide ...	...	...	...	...	0 5 6
4001a <b>Developing Set</b> of Chemicals and Dishes, &c. do.	...	...	...	...	0 6 6
4001b <b>Printing Set</b> of Chemicals and Dishes, &c. do.	...	...	...	...	0 5 0

## E. G. Wood, 74, Cheapside, London, E.C.

**The "Instantograph" Camera**, comprising Bellows-Body Camera, with one Double Dark Slide, Lens with Diaphragms and Instantaneous Shutter, and Stand.

				Extra Dark Slide.	Carriers.
4007	For $\frac{1}{4}$ Plate, as above	£2 2 0	£0 7 6		
4008	" $\frac{1}{2}$ " " "	4 4 0	0 12 6		0 1 6
4009	" $\frac{1}{4}$ " " "	6 6 0	1 0 0		0 2 6

**The "International" Camera**, comprising Long Focus Bellows-Body Camera, with Folding Tail Board, Reversing Back, one Double Dark Slide, Instantaneous Lens, and Shutter, and Stand.

				Extra Dark Slide.	Carriers.
4013	For $\frac{1}{4}$ Plate, as above	£2 10 0	£0 7 6		
4014	" $\frac{1}{2}$ " " "	5 0 0	0 12 6		0 1 6
4015	" $\frac{1}{4}$ " " "	7 10 0	1 0 0		0 2 6

### THE "SECRET" CAMERA.



This is a very useful form of Camera for persons who desire to obtain photographs of passing scenes without being observed. It is  $\frac{1}{4}$  in. in thickness, and 6 in. in diameter, and is worn under the vest. The instrument is worked by an instantaneous shutter, and will take six different pictures on the one plate.

**The "Secret" Camera**, in case, with plates for 36 pictures £1 15 0  
Extra packet of Plates, for 36 pictures ... ... 0 2 9

### MICRO-PHOTOGRAPHIC CAMERAS.

**Micro-Photographic Camera**, for Enlarging Microscopic Objects up to  $4\frac{1}{2} \times 3\frac{1}{2}$ , and making Micro-Photographs, without objective ... £6 6 0

**One-inch Objective** for the above... ... I 10 0

N.B.—Ordinary Microscope Objectives can be used with the above instrument.

### WOOD'S NEW MICRO-PHOTOGRAPHIC CAMERA.

This instrument will be found invaluable to persons desiring to obtain enlarged photographs of microscopic objects. It is of mahogany, and will fit on to the upper end of an ordinary microscope in place of the eyepiece. At the back of the Camera there is a ground glass screen,  $2\frac{1}{4}$  in. square, upon which the object is focussed; this is removable, and its place is afterwards occupied by the sensitive plate. The exposure having been made, the plate is developed in the same way as an ordinary dry plate.

**The New Micro-Photographic Camera** ... .. £0 6 0

**Dry Plates**, for the above ... .. per doz. 0 1 0

**The New Micro-Photographic Camera Set**, comprising camera, plates, chemicals and all requisites ... .. I 1 0

**Wood (late Abraham), 17, Lord Street, Liverpool.**

# Horne, Thornthwaite & Wood,

## STEREOSCOPIC CAMERAS.

4052	With Mahogany Sliding Body, rising front, and one Double Dark Slide	...	...	...	...	...	...	...	£4 10 0
	Extra Double Back	...	...	...	...	...	...	...	1 2 6

## ENLARGING, COPYING AND REDUCING CAMERAS.

Mahogany Body Cameras with Leather Bellows, one Double Dark Slide, including Lens.

					Best Quality.	Second Quality.
4046	from 3½ square to 8½ × 6½ and under	...	...	...	£6 6 0	£4 10 0
4047	" 10 " 8 "	...	...	...	8 8 0	6 10 0
4048	" 12 " 10 "	...	...	...	10 10 0	8 10 0
4049	" 12 " 10 "	...	...	...	Stained Wood Body	5 5 0

## ENLARGING LANTERNS.

Enlarging Lanterns fitted with Condenser, Paraffine Lamp and Achromatic Objective.

4190	With 5 in. Condenser	...	...	...	...	£3 10 0
4191	" 6 in. " and ¼ Plate Objective	...	...	...	...	6 6 0
4196	Highly finished and most complete Enlarging Apparatus, with 5 in. Condenser	...	...	...	...	8 8 0
4197	Ditto 7 in. ditto	...	...	...	...	12 0 0

## LENSES FOR ENLARGING.

Double Lens Condensers, mounted in brass cell

4 in.	4½ in.	5 in.	5½ in.	6 in.	7 in.	8 in.
18/-	22/6	31/6	40/-	52/6	67/6	90/-

## EASTMAN'S ROLL HOLDER.



For 24 Exposures.

Sizes. in inches.									
3½ × 4½	...	...	...	...	...	...	...	£2 0 0	
6½ " 4½	...	...	...	6½ × 7½	...	...	...	3 0 0	
6½ " 8½	...	...	...	8½ " 9½	...	...	...	4 5 0	
8 " 10	...	...	...	9½ " 11½	...	...	...	5 0 0	

Moderate prices charged for fitting the above to existing Cameras.

416, Strand, London, W.C.

## E. G. Wood, 74, Cheapside, London, E.C.

### EASTMAN NEGATIVE PAPER AND STRIPPING FILMS.

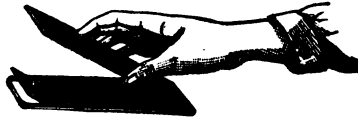
**Spools of Negative Paper or Stripping Films to fit the Eastman-Walker Roll holder—**

3½ inch for	24	3½ × 4½ exposures	...	...	...	£0 3 0
4 "	"	4 " 5 "	...	...	...	0 4 0
4½ "	"	4½ " 6½ "	...	...	...	0 6 6
5 "	"	7½ " 5 "	...	...	...	0 8 0
6½ "	"	6½ " 8½ "	...	...	...	0 11 0
8 "	"	8 " 10 "	...	...	...	0 16 0

**Cut Sheets of Negative Paper or Stripping Films for use in the Film Carriers—**

3½ × 4½	two dozen in box packed flat...	...	...	...	£0 2 6
4 " 5 "	" " " " " " " "	...	...	...	0 3 6
4½ " 6½ "	" " " " " " " "	...	...	...	0 5 6
7½ " 5 "	" " " " " " " "	...	...	...	0 7 0
6½ " 8½ "	" " " " " " " "	...	...	...	0 10 0
8 " 10 "	" " " " " " " "	...	...	...	0 14 0
10 " 12 "	one dozen in box	...	...	...	0 10 6

### FILM CARRIERS AND ACCESSORIES.



These are designed for holding the cut sheets of negative paper during exposure in any ordinary dark slide.

		Sizes.				
<b>Film Carriers—</b>	3½ × 4½	...	...	...	...	12/- per dozen
" "	4 " 5 "	...	...	...	...	15/- "
" "	4½ " 6½ "	...	...	...	...	16/- "
" "	6½ " 8½ "	...	...	...	...	21/- "
<b>Vulcanite Sheets—</b>	9 × 7	...	...	...	...	1/6
" "	13 " 11	...	...	...	...	2/6
<b>Squeegees</b>	8 in.	...	...	...	...	2/-
" "	12 in.	...	...	...	...	3/-
<b>Extra Keys</b>	...	...	...	...	...	1/6
" <b>Reels</b>	...	...	...	...	...	3/6
<b>Concentrated Pyro Developer</b>	8 oz.	...	...	...	...	2/-
<b>Rubber Cloth</b>	...	...	...	...	...	0/6
<b>Eastman's Collodion Varnish</b>	8 oz.	...	...	...	...	2/6
<b>Eastman's Pouring Bottle and Filter combined (invaluable for cleanliness and economy in the use of Collodion or Rubber Substratum)</b>						
<b>Eastman's India Rubber Substratum</b>	8 oz.	...	...	...	...	1/6
<b>Pneumatic Holder for holding glass</b>	...	...	...	...	...	3/6
<b>Bottle of Restrainer</b>	4 oz.	...	...	...	...	0/6

Instructions.

**Stripping Skins.** 24 in each Package.

3½ × 4½ inches	...	...	0/10	6½ × 8½ inches	...	...	3/-
4 " 5 " "	...	...	1/3	8 " 10 " "	...	...	4/-
4½ " 6½ " "	...	...	1/8	10 " 12 " "	(1 doz.)	...	3/-
5 " 7½ " "	...	...	2/-				

**Wood (late Abraham), 17, Lord Street, Liverpool.**

# Horne, Thornthwaite & Wood,

## Sample Sets for Working Eastman Films—

3½ × 4½ inches	... £1 1 6	5 × 7½ inches	... £1 8 6
4 " 5 " "	... 1 3 6	6½ " 8½ "	... 1 13 0
4½ " 6½ "	... 1 6 0	8 " 10 "	... 1 19 0

## FROEDMAN'S PATENT FILM.

(VERGARA CO.)

No stripping, or special processes; tough, but flexible; Printing from both sides; same treatment as for glass plates; can be used in carriers.

Three Trial Pieces.	Sizes.	Negative Tissue.	Per box of 1 doz. cut pieces.
£0 1 0	4½ × 3½	£0 1 9	
0 1 3	5 " 4	0 2 9	
0 1 6	6½ " 4½	0 4 0	
0 2 0	7½ " 5	0 5 0	
0 2 6	8½ " 6½	0 7 6	

## CASES FOR CAMERAS.

Cases with Sling Strap or Handle, to contain Camera, 3 Double Dark Slides, Focussing Cloth, and Eyepiece and Tripod Head.

Sizes.	Leather. 1st quality.	Leather. 2nd quality.	Waterproof Bags.
4054 4½ × 3½	£1 5 0	£0 15 0	£0 7 6
4055 6½ " 4½	1 11 6	1 0 0	0 8 6
4056 8½ " 6½	2 2 0	1 5 0	0 10 6

Waterproof Cases for Tripod Stands, 6/6, 8/6, 10/6.

Boxes, Travelling, Stained and Varnished, to contain Camera, Dark Slides, Lens, an average quantity of Chemicals and Accessories, fitted to order.

4061 4½ × 3½	... ..	about	£0 17 6
4062 6½ " 4½	... ..	"	1 5 0
4063 8½ " 6½	... ..	"	1 10 0

## CAMERA STANDS.



Fig. 4092.

Wood's "Special" Tripod Stand, Polished Mahogany, Folding Legs, attached Stretchers, Collapsing Triangle Head and Screw. No loose pieces; extra light and steady.

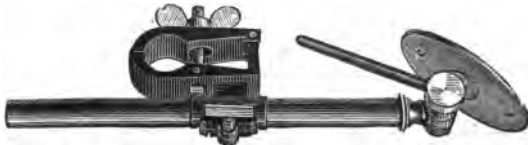
Referring to the above Stand, the *British Journal of Photography* says:—"One of the most ingenious and at the same time one of the most rigid Tripod Stands hitherto seen."



Fig. 4071.

## E. G. Wood, 74, Cheapside, London, E.C.

4071	The "Special" Tripod for Cameras $6\frac{1}{2} \times 4\frac{1}{2}$ and under,	£1 7 6
4072	Ditto Ditto 10 " 8 " "	1 15 0
4073	Folding Ash Tripod with 4-in. Brass Triangle-Head ...	0 17 6
4074	Ditto ditto 5-in. Head ...	1 0 0
4075	Ditto ditto 8-in. " ...	1 7 6
The legs of the above Stand lock, and <i>cannot collapse</i> by a jar or kick after being set up.		
4079	"Uneven Ground" Stand, French Polished, Sliding Legs, adjustable to almost any height without spreading, not heavy, Wooden Head	
4080	Ditto 4-in. ...	0 18 6
4081	Ditto 6-in. ...	1 1 0
4082	Ditto 7-in. ...	1 7 6
	"Portmanteau" Stand folding up twice, to the length of a small "Gladstone" Bag or Tourist Knapsack. Specially suitable for $\frac{1}{4}$ -plate Cameras and under, and capable of carrying a $\frac{1}{4}$ -Plate in still weather ...	1 0 0
4382a	The Three-fold Sliding Leg Stand, height, when open, 5 ft. 2 in. ...	1 10 0
4090	Cheap Stand, Oak Wood, for $4\frac{1}{2} \times 3\frac{1}{2}$ ...	0 10 0
4090*	" " " " " " $6\frac{1}{2} \times 4\frac{1}{2}$ ...	0 15 0
4091	Studio Stand, "French" Polished Oak or Ash, constructed to meet all the requirements of the operator. The Screw Movements are smooth and wear-resisting, and it forms a handsome and substantial accessory ...	5 10 0
4092	Ditto ditto cheaper make ...	3 3 0
4093	The "Amateur" Studio Stand, in White Wood, well constructed ...	1 2 6



4100	Cycle Clip, to fit any size Wheel, for $4\frac{1}{2} \times 3\frac{1}{2}$ Camera	£0 7 6
4101	" " " " $6\frac{1}{2} \times 4\frac{1}{2}$ "	0 10 6
4102	" " " " $8\frac{1}{2} \times 6\frac{1}{2}$ "	0 15 6

### THE TRAFALGAR LENSES.



**Trafalgar Rectilinear Lens,** with Instantaneous Shutter. As an optical instrument this lens will stand comparison with lenses of the highest repute, and is unsurpassed for rapidity and definition. It is fitted with the Standard diaphragms.

The instantaneous shutter is arranged to work behind the diaphragms, and so designed that the exposure may be varied as the exigencies of the subject may require. The shutter is released by a pneumatic attachment, and its action is so smooth that no vibration is communicated to the camera.

Sizes.	£	s.	d.
$4\frac{1}{2} \times 3\frac{1}{2}$ ...	3	0	0
$6\frac{1}{2} \times 4\frac{1}{2}$ ...	4	4	0
$8\frac{1}{2} \times 6\frac{1}{2}$ ...	6	6	0

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,



**Quick-acting Rectilinear Doublets** for Instantaneous Views, Groups, Interiors, and Copying. The best quality are fitted with the Standard Diaphragms, and with the smallest stop they will cover the next size larger plate.

							French.		"Trafalgar." Best quality.
4151	4½	×	3½	...	...	...	26/-	...	£1 15 0
4152	6½	"	4½	...	...	...	35/-	...	2 15 0
4153	8½	"	6½	...	...	...	60/-	...	4 10 0
4154	10	"	8	...	...	...	70/-	...	7 0 0
4155	12	"	10	...	...	...	85/-	...	8 0 0
4156	15	"	12	...	...	...	110/-	...	10 10 0
4157	18	"	14	...	...	...	140/-	...	12 0 0



**Wide Angle Portable Symmetrical Lens** for confined spaces and interiors. Although of very wide angle, the correction for flare and distortion is nearly perfect.

With Revolving Diaphragm.

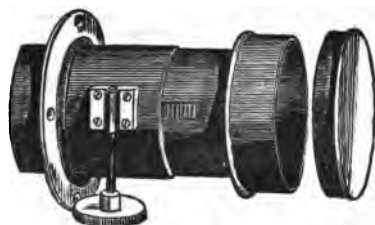
4158	4½	×	3½	...	...	...	...	...	£2 2 0
4591	6½	×	4½	...	...	...	...	...	3 3 0
4160	8½	"	6½	...	...	...	...	...	5 0 0

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## E. G. Wood, 74, Cheapside, London, E.C.

### Single Achromatic View Lenses.

4161	4½ × 3½	...	...	...	...	...	...	£0 10 6
4162	6½ " 4½	...	...	...	...	...	...	0 17 6
4163	8½ " 6½	...	...	...	...	...	...	1 7 6



### Portrait Lenses.

Double Achromatic, with Rack and Pinion adjustment, and set of Diaphragms.

4164	Carte de Visite or	4½ × 3½	...	...	...	...	£1 12 6
4165	Cabinet	" 6½ " 4½	...	...	...	...	3 10 0
4166	Promenade	" 8½ " 6½	...	...	...	...	8 10 0

In compliance with the requirements of the "New Trade Marks Act," we respectfully inform our Customers that the "Trafalgar" Lenses are specially ground for us abroad, and that our name is placed upon them as a guarantee of their quality.

### Wood's Stereoscopic View Lenses.

4160a	Two Achromatic Lenses of 4½ in. and 5½ in. focus fitting into one reversible mount, complete	...	...	...	...	£2 5 0
4160b	Per Pair...	...	...	...	...	4 4 0

### LENSES BY ROSS.

**Quick-acting C.-D.-V. Lenses.** These lenses give very rapid results with brilliancy and exquisite definition. To obtain the best results it is desirable to use the No. 3 when the Studio exceeds 20 feet in length.

Nos.	...	...	...	1	2	3
Focus	...	...	...	4½ in.	4½ in.	6 in.
Price	...	...	...	£5 15 0	£6 10 0	£11 10 0

Brilliant definition and great rapidity.

**Rapid Symmetrical Lenses** for Groups, Views, Interiors, and every kind of Outdoor Photography. The Rapid Symmetricals, being aplanatic, work with full aperture, and are, perhaps, the best and most useful Lenses an Amateur or Professional Photographer can possess for general outdoor purposes.

Views	3×3	4½×3½	5×4	6×5	8×5	8½×6½	9×7	10×8	12×10	13×11
Groups	Stero	4½×3½	5×4	7½×4½	8×5	8½×6½	9×7	10×8	12×10	
Focus	3 in.	4½ in.	6 in.	7½ in.	9 in.	10½ in.	12 in.	14 in.	16 in.	18 in.
Prices	£3 10	£4	£4 5	£5 5	£5 15	£6 10	£7 10	£8 10	£10 10	£11 10

Etc., etc., etc.

10 % Discount allowed for Cash with order off Prices of Ross Lenses.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,

### THE STANDARD UNIT DIAPHRAGMS.

The Existing Diaphragms of Photographic Lenses altered and numbered in exact accordance with the standard of the Photographic Society of Great Britain, at the following prices per set :—

	s.	d.
Any size lens up to 2 inches in diameter ... ..	6	0
Above 2 inches and not exceeding 2½ inches ... ..	7	6
Above 2½ inches and under 3½ inches... ..	10	6

In cases when a new stop has to be supplied to complete the series, 1s., 1s. 3d., or 1s. 6d. should be added to the above prices.

Portrait Lens Mounts cut and fitted with set of four Standard Unit Diaphragms, in case :—

	s.	d.
¼ plate ... ..	10	6
½ " ... ..	12	6
¾ " ... ..	15	0

### INSTANTANEOUS SHUTTERS.

- 4171 **The "Plunge" Shutter.** ¼ or ½ plate 31s. 6d.; ¾ plate 35s.  
 4172 **The "Phantom" Shutter** adapted to Lenses with Hood—  
 Of diameter of Hood 1½ in. 16s. 6d. 2 in. 21s. 2½ in. 25s.  
 4173 **Pneumatic Ball and Tube** ... .. extra 6s. 6d.  
 4176 **The "Cheap" Drop Shutter**, polished mahogany. For hoods of  
 diameter 1½ in. 5s. 6d., 2 in. 7s. 6d., 2½ in. 10s.

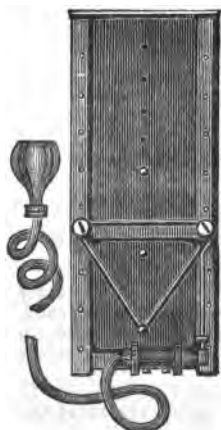


Fig. 4174.

- 4174 **White's Shutter.**—This new Shutter is the most simple and efficient that has been designed. It allows the longest exposure to the foreground of the picture; it has one point of absolute rest for exposure. It is released by a Pneumatic Ball and Tube.

For Hoods of diameter, 1½ in. 17s., 2 in. 21s.  
 2½ in. 25s.

- 4174a **The Improved White's Instantaneous and Time Shutter.**  
 In an ingenious contrivance this improved shutter can be used as a time shutter, or as an instantaneous shutter. It is released by a Pneumatic Ball and Tube.  
 For Hoods of diameter 1½ in. 21s., 2 in. 25s., 2½ 30s.

## E. G. Wood, 74, Cheapside, London, E.C.

### WOOD'S "TRAFALGAR" DRY PLATES.



These plates in the hands of amateurs are most successful, as they possess enormous latitude, and can be controlled, when over or under exposed, with better results than any other plates. They will develop with any standard developer.

#### In Two Rapidities—

$4\frac{1}{2} \times 3\frac{1}{4}$ ,  $5 \times 4$ ,  $6\frac{1}{2} \times 4\frac{1}{2}$ ,  $7\frac{1}{2} \times 5$ ,  $8\frac{1}{2} \times 6\frac{1}{2}$ ,  $10 \times 8$ ,  $12 \times 10$ .

#### Landscape.

1/-, 1/7, 2/3, 3/5, 4/3, 7/3, 10/6

#### Instantaneous.

1/3, 2/-, 3/-, 4/6, 5/6, 9/6, 13/-

*Trafalgar Plates*, specially prepared for use in hot climates to order.

Intermediate Sizes to Order.

Instructions for Manipulation in each Packet.

### PLATES BY OTHER MAKERS.

	$4\frac{1}{2} \times 3\frac{1}{4}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{1}{2}$	$7\frac{1}{2} \times 5$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$	$12 \times 10$
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Ilford... ..	1 0	1 7	2 3	3 5	4 3	7 3	10 6
" rapid	1 3	2 0	3 0	4 6	5 6	9 6	13 0
Edwards' ...	2 0	2 8	4 0	5 0	7 0	10 0	16 8
Fry's, Kingston	1 0	1 7	2 3	3 5	4 3	7 3	10 6
" 60	1 3	2 0	3 0	4 6	5 6	9 6	13 0
Paget's 50 ...	1 8	2 6	3 8	5 0	7 0	10 8	15 6
Wrattan's ...	1 9	2 9	3 9	5 3	7 3	10 9	17 3
" Inst.	2 0	3 0	4 3	6 0	8 0	12 0	19 0
" D.S.	2 3	3 4	4 9	6 9	8 9	13 3	21 0
Isochromatic	3 0	4 6	6 0	7 6	8 6	12 6	15 0

### TRAFALGAR OPAL PLATES (SENSITIZED) WITH MATT SURFACE.

	$4\frac{1}{2} \times 3\frac{1}{4}$	$6\frac{1}{2} \times 4\frac{1}{2}$	$8\frac{1}{2} \times 6\frac{1}{2}$
	s. d.	s. d.	s. d.
Per $\frac{1}{4}$ dozen ... ..	2 0	4 0	7 6
Per $\frac{1}{4}$ dozen ... ..	1 3	2 6	4 0

Each packet includes Bromide Paper to try the Exposure.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,

### TRAFALGAR LANTERN PLATES (CHLORIDE).

For the production of Lantern Slides, Window Transparencies, &c., these Chloride Plates are beyond question the finest in the market.

	$3\frac{1}{4} \times 3\frac{1}{4}$	$4\frac{1}{4} \times 3\frac{1}{4}$	$6\frac{1}{4} \times 4\frac{1}{4}$	$8\frac{1}{4} \times 6\frac{1}{4}$
	s. d.	s. d.	s. d.	s. d.
For 1 dozen ...	1 6	2 0	4 6	7 6
For $\frac{1}{2}$ dozen ...	...	...	2 6	4 0

### TRAFALGAR LANTERN PLATES (CHLORO-BROMIDE).

	$3\frac{1}{4} \times 3\frac{1}{4}$	$4\frac{1}{4} \times 3\frac{1}{4}$	$6\frac{1}{4} \times 4\frac{1}{4}$	$8\frac{1}{4} \times 6\frac{1}{4}$
For 1 dozen...	1 0	1 0	2 3	4 3

The developer for these plates is similar to that used with the Opal Plates.

### FRY'S LANTERN PLATES (BROMIDE).

$3\frac{1}{4} \times 3\frac{1}{4}$	...	...	...	per doz.	1 0
------------------------------------	-----	-----	-----	----------	-----

### PARCELS POST TARIFF.

In remitting for goods to be despatched by post or rail, it should be remembered that packing and transit charges are not included in the catalogue prices. The rate of postage is 3d. for the first pound, and 1½d. for each additional pound up to eleven pounds.

As a guide to customers who order plates to be sent by Parcels Post, the extra charge will be—

	$\frac{1}{4}$ plate.	$\frac{1}{2}$ plate.	$\frac{3}{4}$ plate.
	s. d.	s. d.	s. d.
For 1 dozen ...	0 6	0 6	1 0
„ 2 dozen ...	0 6	1 0	—

### DISHES.



		Vulcanite.	Glass.	Porcelain.	Do., deep.
For plates.		s. d.	s. d.	s. d.	s. d.
4236 $3\frac{1}{4} \times 3\frac{1}{4}$	...	0 7	0 0	0 0	0 0
4237 $4\frac{1}{4} \times 3\frac{1}{4}$	...	0 8	0 10	0 7	0 8
4238 5 " 4	...	0 10	1 0	0 8	0 10
4239 $6\frac{1}{4} \times 4\frac{1}{4}$	...	1 0	1 8	0 8	1 0
4240 $8\frac{1}{4} \times 6\frac{1}{4}$	...	2 0	2 6	1 0	1 2
4241 10 " 8	...	3 0	4 0	1 3	1 6
4242 12 " 10	...	4 0	5 0	2 0	3 6
4243 15 " 12	...	7 6	0 0	5 6	8 0
4244 20 " 16	Pine Wood with glass bottom	...	...	...	8 6
4245 24 " 19	" "	" "	" "	...	10 6
4246 31 " 23	" "	" "	" "	...	15 0

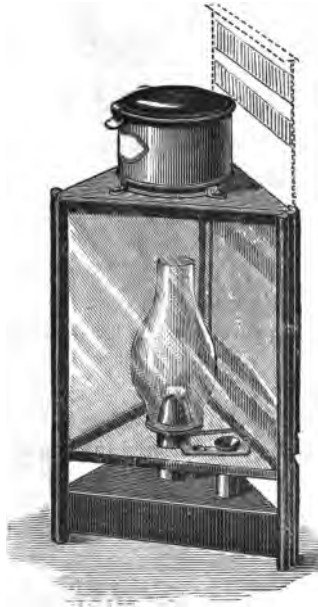
### THE WAVELET BATH.

This bath is of metal, electro-plated, and attached to the side is a lever plate lifter, which enables the operator to take hold of the plate without soiling his fingers.

$\frac{1}{4}$  plate, 1/-;  $\frac{1}{2}$  plate, 1/9;  $\frac{3}{4}$  plate, 2/9; 10 x 8, 4/-; 12 x 10, 5/-

**E. G. Wood, 74, Cheapside, London, E.C.**

**NON-ACTINIC LANTERNS.**



								£	s.	d.
4251	<b>Oil Lantern</b>	...	...	...	...	...	...	0	2	0
4251a	<b>Candle ditto</b>	...	...	...	...	...	...	0	3	0
4252	<b>Folding-pocket (Reddings') Lamp</b>	...	...	...	...	...	...	0	4	0
4253	Ditto	Large size	Ditto	„	...	...	...	0	7	0
4253a	Ditto	Metal and Glass	„	...	...	...	...	0	3	0
4254	Extra light, each	...	...	„	...	2d. and	...	0	0	4
4255	<b>“Perfection” (Paraffine)</b>	„	...	...	...	...	...	0	7	6
4256	<b>Wood's Square Lantern for Oil</b> , having three panes of Ruby Glass. Strongly recommended	...	...	...	...	...	...	0	4	0
4256a	<b>Improved Lamp</b> , for use with ordinary gas	...	...	...	...	...	...	0	6	6
	<b>Self-Lighting Gas Burner</b>	...	...	...	...	...	...	0	3	6
	<b>Ruby Chimney and Fittings</b> , to use with an ordinary gas bracket	...	...	...	...	...	...	0	4	0

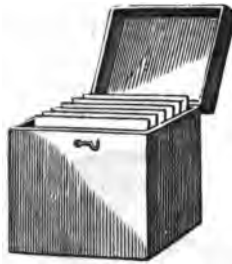
**LESSONS IN PHOTOGRAPHY.**

Amateurs desiring practical instructions in this delightful art can have the same. Terms, three lessons, £1 1s. One lesson, 10s. 6d.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

# Horne, Thornthwaite & Wood,

## PLATE BOXES.



White Wood.

12 Grooves ...	$4\frac{1}{2} \times 3\frac{1}{2}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{1}{2}$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$	$12 \times 10$
24   "   ...	1s. 3d.	1s. 9d.	2s. 0d.	2s. 6d.	4s. 0d.	5s. 0d.
50   "   ...	1s. 9d.	2s. 3d.	2s. 6d.	3s. 3d.	5s. 0d.	6s. 0d.
	2s. 3d.	2s. 6d.	3s. 0d.	4s. 6d.	6s. 0d.	8s. 6d.

Other sizes to order.

### \* Cardboard. Fitted with metallic grooving.

12 Grooves, each...	$4\frac{1}{2} \times 3\frac{1}{2}$	$5 \times 4$	$6\frac{1}{2} \times 4\frac{1}{2}$	$8\frac{1}{2} \times 6\frac{1}{2}$
per dozen ...	os. 6d.	os. 7d	os. 8d.	os. 10d.
	5s. 6d.	6s. 6d.	7s. 6d.	9s. 6d.

\* These boxes are recommended for travelling and storage of negatives.

### Light, Tight, polished mahogany.

12 Grooves...	$4\frac{1}{2} \times 3\frac{1}{2}$	$6\frac{1}{2} \times 4\frac{1}{2}$	$8\frac{1}{2} \times 6\frac{1}{2}$	$10 \times 8$
24   "   ...	2s. 9d.	4s. 0d.	5s. 6d.	7s. 0d.
	5s. 0d.	6s. 6d.	8s. 6d.	10s. 6d.

Lock and key, 1s. 6d. each extra.

## SCALES AND WEIGHTS.



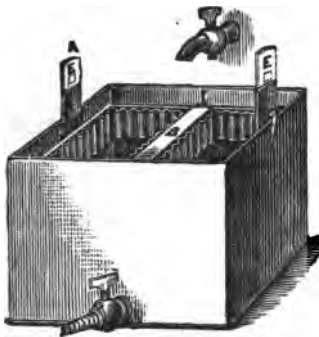
		£	s.	d.
4361	<b>Scales and Weights,</b> with steel beam, set of weights from 2 drams to $\frac{1}{2}$ -grain, brass pans, in oak box ...	...	0	2 6
4362	Superior beam, weights, glass pans, in oak box	...	0	3 6
4362a	Ditto with Brass Standard ...	...	0	6 6
4363	<b>Bench Scales,</b> without chains or cords, having pans (one removable), balanced from beneath, with set of weights $\frac{1}{4}$ -oz. to 1-lb....	...	0	15 9
4365	<b>Stand Scales,</b> oval box-end, steel beam, with weights, brass pillar and glass movable pan, fitting into drawer of polished mahogany stand ...	...	1	16 0
4370	Set of 3 weights, $\frac{1}{4}$ -oz., $\frac{1}{2}$ -oz., and 1-oz.	...	0	0 6
4371	Do. grain weights, $\frac{1}{4}$ -gr. to 1-oz.	...	0	1 6

## E. G. Wood, 74, Cheapside, London, E.C.

### TENTS.

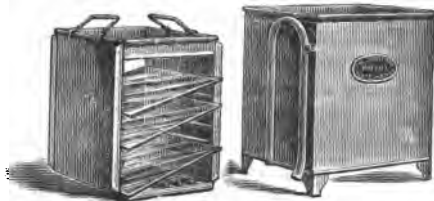
- 4385 **Tent, Portable Developing.** This tent is so devised that it may be fitted up indoors or the open air. It stands 6 ft. high, is 3 ft. square, and folds up in a compact form for travelling ... 4 5 0
- 4387 **Patent "Eclipse" Ruby Tent,** Opening and closing like an Umbrella. For changing plates ... 1 5 0
- 4388 Do. and developing ... 1 15 0
- Changing Bag** ... 0 10 6
- Portable Studio.** This consists of a light folding frame work, with top and side Curtains, and is intended for garden use. Size, 7 ft. high, by 5 ft. wide.  
Price, without background ... 5 5 0
- Dark Room Developing Sink:** Comprising Stoneware Sink, mounted on Stand with tap, waste pipe, racks, &c.  
Extreme width with Side Shelves 4 ft. ... 5 5 0

### WASHING TROUGHS FOR NEGATIVES.



- 4390 For  $8\frac{1}{2} \times 6\frac{1}{2}$  plates and under, adjustable ... 0 10 0
- 4391 For  $12 \times 10$  plates and under, adjustable ... 0 14 6
- Ditto, not adjustable, for 50, each  $\frac{1}{4}$  and  $\frac{1}{2}$  plate ... 0 18 6
- 4392 For  $4\frac{1}{2} \times 3\frac{1}{2}$  plates only ... 0 7 6
- 4393 Do.  $6\frac{1}{2}$  „  $4\frac{1}{2}$  ditto ... 0 8 6
- 4394 Do.  $8\frac{1}{2}$  „  $6\frac{1}{2}$  ditto ... 0 9 6

### THE GODSTONE PLATE WASHER.



The special advantages of this Washer are :—  
 1st. The plates are washed face downwards.  
 2nd. It will wash six plates of the size it is intended for, or a larger number of the smaller size plates.

## Horne, Thornthwaite & Wood,

3rd. The automatic syphon is so arranged that the plates are never left dry, and the water never wasted.

4th. If there be no continuous supply, the occasional lifting of the cage in which the plates are placed, and change of water, will suffice.

Size.	Cage only.				Tank only.				Complete.	
	s. d.				s. d.				s. d.	
$\frac{1}{2}$ plate	...	...	7	0	...	...	4	0	...	10 6
$\frac{1}{4}$ "	...	...	8	6	...	...	5	0	...	12 6

### GODSTONE WASHING TRAY FOR PRINTS.



						s. d.		s. d.	
<b>A</b>	for prints to half plate...	...	...	...	Price	6	9	carriage	0 8
<b>B</b>	" " whole plate	...	...	...	"	9	0	"	0 9
<b>C</b>	" " 15 X 12	...	...	...	"	14	6	"	1 6

### MATERIALS FOR PRODUCING LANTERN SLIDES.

**Trafalgar Lantern Transparency Plates.**—These Plates are very easy to manipulate, and enable the tourist to prepare slides for the Optical Lantern; so that views taken on a summer tour may be thrown upon the screen, and afford infinite satisfaction both to the tourist and to friends during the long winter evenings.

						s. d.	
<b>Trafalgar Plates, <math>3\frac{1}{2} \times 3\frac{1}{2}</math></b>	...	...	...	per dozen		1	6
" " by post	...	...	...	...		1	9
<b>Developing Solution</b> for the above, 12 ozs. in two bottles	...	...	...	...		1	6
<b>Clearing Solution</b>	...	...	...	...		0	10
<b>Light Tight Printing Frame</b>	...	...	...	...		5	0
<b>Trafalgar Chloride Set.</b> — 1 Dozen Plates, $3\frac{1}{2} \times 3\frac{1}{2}$ , with							
Chemicals, Glasses, Instructions, &c., for producing Finished Slides						12	6
4433 <b>Box of Water Colours</b> , 6 colours, brushes and varnish	...	...	...	...		2	6
4434 <b>Box of Water Colours</b> , containing 10 colours, &c.	...	...	...	...		5	0
4436 <b>Easel</b> for painting slides upon...	...	...	...	...		2	6
4437 <b>Book on Slide Painting</b>	...	...	...	...		1	9
4438 <b>Glasses</b> for covering, $3\frac{1}{2} \times 3\frac{1}{2}$ , per gross	5/-	per dozen				0	6
4439 Do. do. $4\frac{1}{2} \times 3\frac{1}{2}$ do.	6/-	"				0	7
4441 <b>Masks</b>	...	per box of 4 dozen				1	0
4442 <b>Binding Paper</b>	...	per sheet				0	2
4444 Ditto gummed strips	...	box of 6 dozen				1	0

*For full particulars of Magic Lanterns and Slides see separate Catalogue.*

# E. G. Wood, 74, Cheapside, London, E.C.

## WOOD'S PHOTOGRAPHIC PAPERS.

		s.	d.	Extra. quality. s. d.
4450	Albumenized Paper, best quality only, per quire	7	6	—
4451	New Ready Sensitized, pink and white, long keeping, prints rapidly, and yields more variety in tones than any other Ready Sensitized paper			
	per quire	13	6	16 0
4452	Ditto ... .. half-quire	7	0	8 6
4453	Ditto ... .. quarter-quire	4	0	4 6
4454	Ditto ... .. single sheet	0	10	1 0
4455	Ditto ... .. single sheet, per post	1	0	1 2

Mauve per quire only. Quotations for quantity.

Postage extra.

## WOOD'S READY-CUT SENSITIZED PAPER.

		s.	d.
4461	One packet containing 42 C.-D.-V. ... ..	1	0
4462	" " 20 Quarter plate ... ..	1	0
4463	" " 15 Cabinet ... ..	1	0
4464	" " 10 Half plate 6 X 4 ... ..	1	0

Or three packets, any size, 2s. 6d. Postage 3d.

## MATT SURFACE SENSITIZED PAPER.

This Highly Sensitized Paper gives permanent prints in the style of Carbons, and can be toned and fixed in the same way as the Albumenized paper.

Per quire, smooth paper, Rivot's	...	...	...	...	...	0	12	6
" " rough	...	...	...	...	...	0	12	6
Sample Sheet	...	...	...	...	...	0	1	0

## EASTMAN'S PERMANENT BROMIDE PAPER.

(A) Smooth Surface, Thin Paper; (B) Smooth Surface, Heavy Paper;  
(C) Rough Surface, Heavy Paper.

These papers may be used for positive printing or copying drawings by contact; for enlargements, plain or working up in crayon, ink, water colours or oils, according as the taste or judgment of the operator may suggest.

		Size.	ALL ONE PRICE.	s.	d.
4480	4½ X 3½	...	...	12 sheets	0 8
4481	5 " 4	...	...	"	0 11
4482	6½ " 4½	...	...	"	1 6
4483	8½ " 6½	...	...	"	2 6
4484	10 " 8	...	...	"	3 6
4485	12½ " 10½	...	...	"	6 0
4486	15½ " 12½	...	...	"	7 6
4487	23 " 17	...	...	"	14 0

Full directions in each package.

## RIVOT'S SELF-TONED PAPER.

REQUIRES FIXING ONLY.

Per sheet	...	...	...	...	...	...	...	s. d.
								1 0
Post 2d. extra.								

Wood (late Abraham), 17, Lord Street, Liverpool.

# Horne, Thorntwaite & Wood,

## OBERNETTER'S PAPER.

Chloride of Silver Emulsion Paper for Rapid Printing.

							s. d.
Cabinets, per packet of 25	...	...	...	...	...	...	2 6
$\frac{1}{2}$ plate	...	...	...	...	...	...	3 6
Postage 2d. extra.							

## ARISTOTYPE PAPER.

Size.							s. d.
6 X 4	per packet of 12 sheets	...	...	...	...	...	1 3
7 " 5	" " " "	...	...	...	...	...	1 9
8 $\frac{1}{2}$ " 6 $\frac{1}{2}$	" " " "	...	...	...	...	...	3 0
10 " 8	" " " "	...	...	...	...	...	4 6

## WOOD'S FERRO-PRUSSATE PAPER.

For producing blue prints from negatives, and reproducing plans from tracing paper.

NO TONING. NO FIXING. REQUIRES WASHING ONLY.

**Directions:** Handle in subdued light. Expose under negative, or tracing, in pressure frame. Print deeply in strong light. Wash until the whites show purely.

						s. d.
4591	Per Roll of 10 yards	...	Extra thin	...	28 in. wide	9 6
4592	Ditto	...	Thin	...	27 $\frac{1}{2}$ "	6 6
4593	Ditto	...	Thick	...	25 $\frac{1}{2}$ "	6 6
4594	Ditto	...	Ditto	...	29 $\frac{1}{2}$ "	7 6
4595	Ditto	...	Ditto	...	36 "	9 6
4596	Sample Sheet	...	...	...	18 X 36 post free	1 0

## MORGAN & KIDD'S POSITIVE PAPER.

FOR CONTACT PRINTING AND ENLARGEMENTS. (A & C.)

Size.							s. d.
4 $\frac{1}{2}$ X 3 $\frac{1}{2}$	per 2 dozen	...	...	...	...	...	1 3
6 $\frac{1}{2}$ " 4 $\frac{1}{2}$	per 1 dozen	...	...	...	...	...	1 3
8 $\frac{1}{2}$ " 6 $\frac{1}{2}$	"	...	...	...	...	...	2 3
10 " 8	"	...	...	...	...	...	3 0
12 " 10	"	...	...	...	...	...	4 6
15 " 12	"	...	...	...	...	...	7 0
	Sample Sheet	...	...	...	...	...	1 3

M. & K's. Negative Paper and Slides to order.

## ALPHA PAPER.

FOR CONTACT PRINTING.

						s. d.
Box containing 334 Cartes de Visite	...	...	...	...	...	5 0
" " 120 Cabinet...	...	...	...	...	...	5 0
" " 50 Whole Plate	...	...	...	...	...	5 0
Sample Packet of Cabinet Paper	...	...	...	...	...	1 0

# E. G. Wood, 74, Cheapside, London, E.C.

## PHOTOGRAPHIC MOUNTS.

		C de V.		$\frac{1}{2}$ Plate.		$5 \times 4$	
		Per 100.	Per doz.	Per 100.	Per doz.	Per 100.	Per doz.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
PLAIN BRISTOL	...	1 0 ...	0 2	2 0 ...	0 3	2 6 ...	0 4
RED LINE DITTO	...	1 3 ...	0 3	— ...	—	— ...	—
PLAIN ENAMEL	...	1 3 ...	0 3	2 6 ...	0 4	3 0 ...	0 5
RED LINE DITTO	...	1 6 ...	0 4	3 0 ...	0 6	3 6 ...	0 7
CHOCOLATE OR OLIVE	...	1 6 ...	0 4	3 0 ...	0 6	3 6 ...	0 7
CHOCOLATE OR OLIVE	{ Gold Bevelled Edge }	3 6 ...	0 6	5 0 ...	0 9	6 6 ...	0 10
		Cabinet.		$\frac{1}{2}$ Plate.		$\frac{1}{2}$ Plate.	
		Per 100.	Per doz.	Per 100.	Per doz.	Per 100.	Per doz.
		s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
PLAIN BRISTOL	...	3 0 ...	0 5	3 9 ...	0 7	7 0 ...	1 0
RED LINE DITTO	...	3 6 ...	0 6	— ...	—	— ...	—
PLAIN ENAMEL	...	3 6 ...	0 6	5 0 ...	0 9	— ...	—
RED LINE DITTO	...	4 0 ...	0 7	6 0 ...	1 0	8 0 ...	1 3
CHOCOLATE OR OLIVE	...	4 0 ...	0 7	6 0 ...	1 0	9 6 ...	1 6
CHOCOLATE OR OLIVE	{ Gold Bevelled Edge }	7 6 ...	1 0	8 0 ...	1 3	12 0 ...	2 0

## OXFORD LINE OR INDIA TINT MOUNTS.

Size of Board.	Size of Line or Tint.	For Prints.	Per 100.	Per doz.
			s. d.	s. d.
8 X 6 ...	5 $\frac{1}{2}$ X 4 $\frac{1}{2}$ ...	$\frac{1}{2}$ pt. ...	4 6 ...	0 9
9 " 7 ...	6 " 5 ...	5 X 4 ...	5 6 ...	0 10
10 $\frac{1}{2}$ " 8 $\frac{1}{2}$ ...	7 $\frac{1}{2}$ " 5 $\frac{1}{2}$ ...	$\frac{1}{2}$ pt. ...	7 0 ...	1 0
12 $\frac{1}{2}$ " 9 $\frac{1}{2}$ ...	9 $\frac{1}{2}$ " 7 $\frac{1}{2}$ ...	$\frac{1}{2}$ pt. ...	9 0 ...	1 6
16 " 12 ...	10 $\frac{1}{2}$ " 8 $\frac{1}{2}$ ...	10 X 8 ...	15 6 ...	2 6
18 $\frac{1}{2}$ " 14 $\frac{1}{2}$ ...	— ...	12 X 10 ...	23 0 ...	3 6

## WOLFF'S PATENT ADHESIVE MOUNTS.

Gold Bevelled Edge, Olive, Olive Green, and Chocolate.

Size	C. de V.	Cabinet.	6 $\frac{1}{2}$ X 4 $\frac{1}{2}$	7 $\frac{1}{2}$ X 4 $\frac{1}{2}$	8 $\frac{1}{2}$ X 6 $\frac{1}{2}$	7 $\frac{1}{2}$ X 9 $\frac{1}{2}$
Price per doz. ...	8d.	1/2	1/4	2/4	2/9	5/6
Price per 100 ...	4/6	8/6	9/6	15/-	18/6	36/-

### TONED BOARDS with Rounded Corners.

Size	C. de V.	Cabinet.	6 $\frac{1}{2}$ X 4 $\frac{1}{2}$	7 $\frac{1}{2}$ X 4 $\frac{1}{2}$	8 $\frac{1}{2}$ X 6 $\frac{1}{2}$	9 $\frac{1}{2}$ X 7 $\frac{1}{2}$
Price per doz. ...	4d.	9d.	1/6	2/-	2/9	3/6
Price per 100 ...	2/-	4/6	6/-	9/6	12/-	20/-

## WOOD'S TRAFALGAR ACTINOMETER.

This Actinometer has been designed for readily ascertaining the actinic power of the light before taking a photograph.

Price, with roll of Sensitive Paper sufficient for 80 exposures ... 0 2 6  
Extra Sensitive Papers for the above, per roll 1/-.

## ACKLAND'S PHOTOGRAPHIC EXPOSURE SCALE.

This Scale, used in conjunction with the above Actinometer, and giving the correct exposure for every variation of light, sensitiveness of plates and size of stop without calculation or trouble.

Price, with full directions ... 0 3 6

Wood (late Abraham), 17, Lord Street, Liverpool.

# Horne, Thornthwaite & Wood,

## PHOTOGRAPHIC SUNDRIES.

4400	Background, artistically painted, rustic interiors, &c.	...	0	10	6
4402	Chamois Leather, selected ...	...	0	2	6
4404	Developing Cups, set of three, Glass	...	0	1	6
4406	Dropping Bottles, with Rubber Top	...	0	1	6
4407	Ditto with patent Stopper	...	0	0	8
4408	Draining Rack, for plates $4\frac{1}{2} \times 3\frac{1}{2}$	12 Grooves.	0	1	0
4408a	" " " $6\frac{1}{2} \times 4\frac{1}{2}$	24 Grooves	0	1	6
4409	" " " $8\frac{1}{2} \times 6\frac{1}{2}$	...	0	2	3
4409a	" " Tylar's $\frac{1}{4}$ pt. $0$ $1$ $6$	$\frac{1}{4}$ pt. $0$ $2$ $6$	$\frac{1}{4}$ pt. $0$ $3$ $6$		
4410	Diamonds, cutting	...	0	18	0 and $1$ $5$ $0$
4411	Ditto writing	...	0	7	6 " $0$ $12$ $6$



### Funnels, Glass—

	Inches diameter	2	3	4	5	6	8
4413	Each ...	3d.	4d.	6d.	9d.	1s.	1s. 8d.

### Filter Papers ready cut—

	Inches diameter	...	6	7 $\frac{1}{2}$	10	13
4414	Per Packet of 100	...	8d.	10d.	1s. 2d.	1s. 8d.

4415	Filter Paper	...	...	per quire	60	1	0
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4416	Focussing Cloth.—Black Waterproof "Zephyr," soft	...	...	...	...	...	...
	close-hanging and light-tight, $36 \times 30$	...	...	...	...	...	...

4417	Ditto Black Fabric	...	...	...	...	0	3	6
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4417a	Ditto Black Velvet	...	...	...	...	0	5	6
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4418	Focussing Eye-piece, in lacquered brass	...	...	...	...	60	1	0
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4419	Ditto with adjustment	...	...	...	...	0	1	6
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4419a	Ditto Aplanatic—giving a remarkably flat field	...	...	...	...	0	4	6
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4419b	Focussing Screens.—Grey Glass, $\frac{1}{4}$ pt., 6d.; $\frac{1}{2}$ pt., 9d.; $\frac{3}{4}$ pt., 1s.	...	...	...	...	...	...	...
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4420	Graduated Measures, Clear Glass—	...	...	...	...	...	...	...
	2 dram. 1 oz. 2 oz. 5 oz. 10 oz. 20 oz. 40 oz.	...	...	...	...	...	...	...
	1od. 1od. 1s. 1s. 6d. 2s. 3s. 3s. 6d.	...	...	...	...	...	...	...

4420a	Graduated Measures, Opaque Glass—	...	...	...	...	...	...	...
	1s. 1od. 2s. 2d. 2s. 6d. 3s. 5s. 6s.	...	...	...	...	...	...	...

4420b	Head Rest, to fit any chair back	...	...	...	...	0	7	6
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4421	Levels, brass and nickel-plated, from	...	...	...	...	60	2	0
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4422	Ditto ditto circular pattern	...	...	...	...	0	3	6
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4423	Magnesium Lamp, with clock movement...	...	...	...	...	1	5	0
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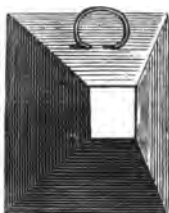
4423a	Non-Actinic Media, Ruby or Canary	...	per yard	0	1	6
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4423b	Ditto Paper	...	per sheet	0	0	2
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	Ditto Ruby Varnish	...	per bottle	0	1	0
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## E. G. Wood, 74, Cheapside, London, E.C.

4423c	<b>Pipettes</b> , set of 3, graduated to deliver $\frac{1}{4}$ or $\frac{1}{8}$ dram, and marked "P. B. & A."—Highly recommended for use in developing	... ..	... per set	0 2 0
	Ditto ditto	... ..	... each	0 0 9
4423d	<b>Plate-lifters</b>	... ..	... per pair	0 0 2
4423e	" "	... Tyler's $\frac{1}{4}$ pt. 9d. $\frac{1}{2}$ pt. 1s. 3d. $\frac{1}{4}$ pt. 2s.		
4424	<b>Pneumatic Plate-holder</b> , Globe pattern, solid India-rubber	... ..	... ..	0 3 6
4425	<b>Photometer</b> (Decondun's)	... ..	... ..	0 8 6
4430	<b>Stirring Rods</b>	... ..	... 6 in. 2d.; 9 in. 3d.; 12 in. 4d.	



4432	<b>View Metres</b> , correctly constructed in black japanned metal	... ..	... each	0 1 6
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In ordering, the equivalent focus and the size of plate the lens covers must be given, or the complete lens and size of plate should be sent.

4433	<b>View Finder</b> , and focussing eye-piece combined, for instantaneous Photography, indicating when the object is in the field of the camera	... ..	... ..	0 7 6
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4434	<b>Yellow Glass Discs</b> , optically and truly polished on both sides, for use either in front or between the lenses when using orthochromatic plates, or to lower the action of the more powerful rays when using ordinary plates on landscapes having great contrasts of light and shade, or in copying.			
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Price, each, according to size and mounting ... .. from 0 5 0

### PRINTING SUNDRIES.

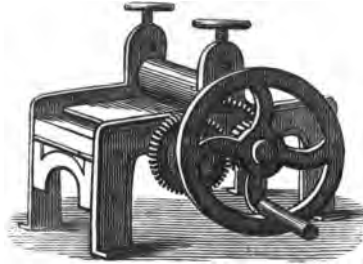
4680	<b>Bath Tester</b> , Hydrometer form, with solution jar, in case	£0 3 6
4681	Ditto Graduated tube, very easy to use	... 0 2 6
4682	<b>Brushes</b> , camel hair, for dusting, 1 in. 8d., 2 in. 1s., 4 in. 2s.	
	Ditto For spotting, &c. 2d., 3d., 4d.	
4683	Ditto Bristle, for mounting	... 6d. and 0 0 9
4684	<b>Burnisher</b> , making prints equal to Enamelled, giving a fine glossy surface, and rendering them more durable. Complete with lamp for carte de visite, 20s.; for $\frac{1}{4}$ plate, 35s.; for $8\frac{1}{2} \times 6\frac{1}{2}$ and under	... 2 2 0
	Ditto for $10 \times 8$ cards,	... 1 15 0
	Ditto $15 \times 12$ "	... 2 10 0
4684a	<b>Colours, Aniline</b> , for tinting Photographs, in case with brushes, each	... 0 7 0

**Wood (late Abraham), 17, Lord Street, Liverpool.**

# Horne, Thornthwaite & Wood,

## Cutting Shapes, Square Edges—

	C-D-V.	4½×3½	5×4	Cabinet	6½×4½	8½×6½
4685	...	6d.	8d.	1s.	1s. 3d.	2s.
	Ditto, with Handles	1s.	1s. 3d.	1s. 6d.	1s. 10d.	2s. 6d.
4686	<b>Cutting Table</b> , Revolving, for trimming prints					
		9s. 6d.	to	0	15	6
4689	<b>Clips</b> for suspending paper					
	...	...	...	per dozen	0	0 10
4690	<b>Cloud Negatives</b> 6½×4½					
	1s. 6d.	8½×6½	2s.	...	10×8	0 3 0
4692	<b>Finger Stalls</b> ...					
	...	...	...	per dozen	0	3 0
4693	<b>Forceps</b> (Vulcanite) ...					
	...	...	...	each	0	0 9
4694	<b>Knives</b> , for trimming prints					
	...	...	...	...	0	0 10
4694a	<b>"American Trimmer"</b> ...					
	...	...	...	...	0	2 0
4695	<b>Masks and Disks</b> , per box, 6 doz. C-D-V.					
	...	...	...	...	0	1 0
4695a	Ditto 3 doz. Cabinets					
	...	...	...	...	0	1 0
4696	<b>Mounting Medium</b> ...					
	...	...	per bottle	1s. and	0	2 0
4696a	<b>Medallion Press</b> , Carte de Visite, 12s.; Cabinet...					
	...	...	...	...	1	5 0



4697	<b>Rolling Presses</b> ...					
	...	...	...	from	3	0 0
4697a	<b>Retouching Desk</b> , with Mirror, spotting board, screen, and drawer for pencils, suitable for retouching ¼ plate to 10×8					
	...	...	...	1	5	0
4698	<b>Retouching Pencils</b> (Hardtmuth) in wood					
	...	...	...	...	0	0 4
4699	Leads in holder					
	...	...	...	...	0	0 6
4700	Leads, per box of six					
	...	...	...	...	0	0 6
4701	each					
	...	...	...	...	0	0 2
4701a	<b>Retouching Set</b> , comprising assorted leads, stump, &c.					
	...	...	...	...	0	3 6
4702	<b>Tin Cases</b> for Sensitized paper					
	...	...	...	...	0	1 6
	<b>Tin Light Cases</b> , for holding untinted prints, with pressure spring					
	...	...	...	¼-plate 2/-	½-plate	0 2 9
4703	<b>Vignette Glasses</b> , various ovals, &c.					
	4½×3½	...	5×4	...	6½×4½	...
	8d.	...	1s.	...	1s. 6d.	...
	...	...	...	...	...	2s.

## PRINTING FRAMES.

**Teak**, extra strong, well finished, hinged back, brass springs, round corners, and screwed.

	2½×2½	4½×3½	5×4	6½×4½	8½×6½	10×8	12×10
4630	Per doz.	6s.	7s. 6d.	9s. 6d.	14s.	18s.	£1 10s. 6d
4631	Each	7d.	9d.	1s.	1s. 6d.	2s.	3s.

Pine or Mahogany Frames and India-rubber Cushions to order.

## E. G. Wood, 74, Cheapside, London, E.C.

### SCRAP ALBUMS FOR PHOTOGRAPHIC PRINTS.

WITH THICK CARD LEAVES.

Half Roan Binding.				Best Quality Binding.							
No. 1.	9½ × 7½	30 leaves	...	£	s.	d.	Persian Calf	£	s.	d.	
No. 2.	10½ × 8½	32	"	...	0	4	6	"	0	8	6
No. 3.	11½ × 9½	32	"	...	0	6	6	"	0	9	6
No. 4.	14½ × 10½	34	"	...	0	6	6	"	0	11	0
No. 5.	16½ × 12½	38	"	...	0	10	0	"	0	15	0
No. 6.	21 × 14½	40	"	...	0	16	0	"	1	2	0
					1	2	0	"	1	15	0

### FRAMES FOR TRANSPARENCIES.

Square, gilt, and ground glass, with rings to hang up by—

¼-plate, 1/9      ½-plate, 2/3      ¾-plate, 3/-

### NEGATIVE BAGS FOR NUMBERING AND PROTECTING NEGATIVES (PAPER).

Per 100 ...	¼ 9d.	5 × 4 10d.	½ 1/0	¾ 1/6
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### INTENSIFYING AND VARNISHING NEGATIVES.

				Intensifying.				Varnishing.			
4½ × 3½	...	...	...	1/-	...	...	...	2d.	...	...	...
6½ " 4½	...	...	...	1/6	...	...	...	3d.	...	...	...
8½ " 6½	...	...	...	2/-	...	...	...	4d.	...	...	...

### DEVELOPING EXPOSED PLATES.

(At Customer's Risk).

				Per dozen.				Under a dozen.			
4½ × 3½	...	...	...	4/6	...	...	...	0/7	each	...	...
6½ " 4½	...	...	...	6/0	...	...	...	0/10	"	...	...
8½ " 6½	...	...	...	8/0	...	...	...	1/2	"	...	...

The above prices are as low as possible for careful manipulation. It will be readily understood that it can be no easy task for an operator to develop plates the exposure of which he knows nothing.

### RETOUCHING.

The careful Retouching of a portrait negative very much enhances the beauty of the print. Many defects of the skin and hard facial furrows are removed and softened down. Defects in the film may also be remedied.

C-D-V full length	9d.	Head, 1 in.	1s. 6d.
" head and bust	1s.	" 1½ in.	2s. 6d.

Special prices for groups and parcels of negatives.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,

### PHOTOGRAPHIC PRINTING AND MOUNTING.

Every possible care is taken in manipulating customers' Negatives; but we do not hold ourselves responsible for breakage.

Prints from parcels of Negatives charged at the rate per dozen.

Cloud effects charged as "Vignettes."

Extra charges are made for cleaning, spotting-out holes in the film, or varnishing.

Size.		Per dozen.	Under half dozen.	Mounting per dozen extra.
		s. d.	s. d.	s. d.
Carte-de-Visite	plain	2 0	0 2½ each.	1 6
Do.	Vignette	2 6	0 3 "	1 6
¼-plate	plain	2 6	0 3 "	2 0
Do.	Vignette	3 0	0 3½ "	2 0
5 × 4	plain	2 9	0 4 "	2 3
Do.	Vignette	3 6	0 4½ "	2 3
Cabinet or ½ plate	plain	3 9	0 5 "	2 6
Do.	Vignette	4 6	0 6 "	2 6
7½ × 5	plain	6 6	0 7 "	3 3
Do.	Vignette	7 6	0 8 "	3 3
8½ × 6½	plain	7 0	0 8 "	4 6
Do.	Vignette	8 0	0 9 "	4 6
10 × 8	plain	10 0	1 0 "	6 0

The above prices for mounting, include spotting and finishing in the best style. The prints up to and including ¼-plate are mounted on best enamelled cards, and above that size on Oxford line or India tint boards.

### TONING AND FIXING PRINTS.

½ plate	...	...	...	...	...	per doz.	s. d.
1/3 "	...	...	...	...	...	"	1 6
1/3 "	...	...	...	...	...	"	3 0

### FERRO-PRUSSATE,\* OR BLUE PRINTING.

½ plate	...	...	...	...	...	per copy	s. d.
1/3 "	...	...	...	...	...	"	0 4
1/3 "	...	...	...	...	...	"	0 6

### BURNISHING AND ENAMELLING.

Burnishing Mounted Photographs up to ½ plate size,	per doz.	s. d.
Enamelling C-D-V.	...	0 6
" Cabinets	...	5 0
"	...	9 0

### PLATINOTYPE PRINTS UNMOUNTED.

		Per dozen.	each.
		s. d.	s. d.
Carte-de-Visite	...	5 0	0 9
¼-plate	...	5 0	0 9
½-plate	...	6 6	1 0
1-plate	...	10 0	1 4
10 × 8	...	12 6	1 6

Mounting at same rate as silver prints.

# E. G. Wood, 74, Cheapside, London, E.C.

## PRINTS ON PERMANENT BROMIDE.

### PAPER UNMOUNTED.

Per dozen.

								s.	d.
$\frac{1}{4}$ plate	...	...	...	...	...	...	...	4	6
$\frac{1}{2}$ "	...	...	...	...	...	...	...	6	6
$\frac{3}{4}$ "	...	...	...	...	...	...	...	9	6

## ENLARGEMENTS.

	On card.	Special cut-out mounts for framing.	Extra.	Oak Frame with gilt slip.
12 X 10	...	5 0	...	4 0
15 X 12	...	6 0	...	5 0
18 X 15	...	7 0	...	7 0
23 X 17	...	8 0	...	10 0
24 X 20	...	10 6	...	...

Finishing in black and white, 7/6.

Blocking out back grounds, 1/3 extra.

All enlargements vignetted unless otherwise ordered.

Enlargements from positive pictures, 2/6 extra.

## BOOKS.

	s.	d.
Abney's "Negative Making"	...	1 0
Abney. "Instruction in Photography"	...	3 6
Abney & Robinson. "Art and Practice of Silver Printing"	...	2 6
Burton. "Modern Dry Plate Photography"	...	1 0
Heighway. "Handbook of Photographic Terms"	...	2 6
" " "Practical Portrait Photography"	...	1 0
" " "Photographic Printer's Assistant"	...	1 0
Indispensable Handbook	...	2 6
Robinson. "Pictorial Effect in Photography"	...	2 6
" " "Picture Making by Photography"	...	2 6
P. S. R. "Beginner's Guide to Photography"	...	1 0
Spiller. "Elementary Treatise on Photographic Chemistry"	...	0 6
Wyles. "Instructions for Beginners"	...	1 0
<b>Note Books, invaluable in the Field—</b>		
Burton's, with New Tables of Exposures	...	1 0
Openshaw's, neat Pocket Book form, with pencil	...	0 9
Cartwright & Ratray's Book with Platt's Table	...	1 0

## ALMANACKS.

Annual Records of Photography, with sundry suggestions and practical information.

"The Year Book of Photography"	...	...	...	...	1 0
"The British Journal Photographic Almanack"	...	...	...	...	1 0

## JOURNALS.

"The Photographic News." Weekly	...	...	...	...	0 3
"The British Journal of Photography." Weekly	...	...	...	...	0 3
"The Amateur Photographer." Weekly	...	...	...	...	0 2
"The Camera." Monthly	...	...	...	...	0 6

Postage Extra.

**Wood (late Abraham), 17, Lord Street, Liverpool.**

## Horne, Thornthwaite & Wood,

### ACKLAND'S SCALE OF PHOTOGRAPHIC EQUIVALENTS.

This Scale of Equivalents is of especial use to the Experimental Photographer and Emulsion Maker, shewing at a glance the relative converting values of the various haloid and other salts, and enabling even the merest tyro to calculate with rapidity and certainty all the usual problems that occur in Photographic Chemistry.

Price, with directions for use, 5s.

### READY-MADE SOLUTIONS.

<b>Eastman's Bromide Paper Developer</b> (3 solutions) ... ..	s. d.
...	2 0
<b>Wood's Ferrous Oxalate</b> , Developer, 2 Bottles, "F. & O." 20 ounces	1 6
Do. 1 Solution ... .. 10 "	1 0
Do. do. ... .. 20 "	1 10
<b>Wood's Alkaline</b> , Developer, Concentrated, 3 Bottles, "B., P., & A.,"	
2 ounces each ... ..	2 0
Do. Do. " " 4 " ... ..	3 6
<b>P Solution</b> only ... .. 2 ounce bottle	1 0
<b>Beach's Potash Developer</b> , 4 ozs. Pyro Solution and 6 ozs.	
Potash Solution, in two bottles ... ..	2 0
<b>Wood's Citrate Developer</b> , for Chloride Plates, two 6 oz. bottles	1 6
<b>Fixing Bath</b> , for Prints ... .. 20 ounces...	0 10
Do. do. Negatives ... .. 20 " ...	0 10
<b>Clearing Bath</b> for Negative ... .. 20 " ...	1 0
Do. do. Transparencies ... .. 10 " ...	1 6
<b>Intensifying</b> , Mercuric ... .. 10 " ...	1 6
Do. Uranium ... .. 5 " ...	1 0
<b>Toning Bath</b> ... .. 20 " ...	1 6
Chloride of Gold, Solution, 1 gr. to the dram ... .. 1 " ...	1 1
<b>Hypo-Eliminator</b> ... .. per bottle	1 0

Above prices include bottles.

*Other photographic formulæ made up at moderate charges.*

### PHOTOGRAPHIC CHEMICALS.

(PRICES SUBJECT TO MARKET.)

	s. d.	Per lb.	Per oz.
	s. d.	s. d.	s. d.
ACID, Acetic ... ..	1 6	0 2	
Do. Citric Powdered ... ..	3 0	0 3	
Do. Hydrochloric ... ..	0 6		
Do. Nitric ... ..	1 0		
Do. Oxalic ... ..	1 2	0 2	

# E. G. Wood, 74, Cheapside, London, E.C.

		s.	d.	Per lb. s. d.	Per oz. s. d.
<b>ACID, Pyrogallie, Re-sublimed</b>	..	...	...	...	1 0
Do. Do. $\frac{1}{4}$ oz. Wooden Canister	..	...	0 8	...	...
Do. Do. <b>Scherings'</b>	...	...	...	...	1 2
Do. Sulphuric	...	...	...	0 6	0 1
Do. Sulphurous	...	...	...	1 0	0 2
Do. Tartaric	...	...	...	3 6	0 4
<b>Ammonia, '880</b>	...	...	...	0 10	0 2
Do. Carbonate	...	...	...	1 0	0 2
Do. Bichromate	...	...	...	5 0	0 6
<b>Ammonium, Bromide</b>	...	...	...	2 6	0 3
Do. Chloride	...	...	...	1 2	0 2
Do. Nitrate	...	...	...	2 0	0 2
<b>Alum, Powdered</b>	...	...	...	0 3	...
<b>Alcohol, absolute</b>	...	...	...	5 0	0 5
Do. <b>Methylated</b>	...	...	pint 1 0	...	...
Benzole	...	...	...	2 0	0 3
BORAX, powdered	...	...	...	0 9	0 1
Baryta, Nitrate	...	...	...	1 0	0 2
Chalk, Powdered French	...	...	...	0 6	...
Camphor	...	...	...	...	0 2
COLLODION	...	...	per 2 oz. bottle 1 0	...	...
Do. 6 oz. with Iodizer separate	...	...	3 8	...	...
Do. Enamel	...	...	per pint 3 0	...	0 4
Dextrine	...	...	...	0 8	0 1
Eosin	...	...	...	...	3 0
Ether, Sulphuric	...	...	...	1 6	...
Gelatine, Nelson's	...	...	...	6 0	...
Do. Heinrich's	...	...	...	5 0	...
Glycerine	...	...	...	1 4	0 2
Gun Cotton	...	...	...	...	2 0
<b>Gold, Chloride</b>	...	...	15 gr. tube 1 9	...	...
Do. Do. Solution. 8 grs. to oz. in bottle	...	...	...	...	1 1
Hydrogen, Peroxide, 10 vol.	...	...	...	...	0 3
Hydrokinone	...	...	...	...	5 0
<b>Iron, Oxalate</b>	...	...	...	2 6	0 3
Do. <b>Protosulphate</b>	...	...	...	0 3	...
LIME, Hypochlorite	...	...	...	0 6	...
<b>Magnesium Ribbon or Powder, per <math>\frac{1}{4}</math>-oz.</b>	...	...	1 0	...	2 6
<b>Mercury, Bichloride</b>	...	...	...	3 0	0 3
METHYLATED SPIRIT	...	...	pint 1 0	...	...

# Horne, Thornthwaite & Wood,

				Per lb.		Per oz.	
				s.	d.	s.	d.
<b>Mounting Medium</b>	..	...	per bottle	1	0	...	...
Do.			ditto	2	0	...	...
<b>Potash, Bichromate</b>	...	...	...	...	1	0	0 2
Do. Carbonate	...	...	...	...	0	8	0 1
Do. Citrate	...	...	...	...	2	9	0 3
Do. Ferricyanide (Red Prussiate)	...	...	...	...	3	0	0 3
Do. Ferrocyanide (Yellow Prussiate)	...	...	...	...	1	4	0 2
Do. <b>Neutral Oxalate</b>	...	...	...	...	1	0	0 2
<b>Potassium Bromide</b>	...	...	...	...	2	6	0 3
Do. <b>Iodide</b>	...	...	...	...	...	1	4
<b>Silver, Nitrate</b>	...	...	...	...	...	3	6
Do.	...	...	5 ounces	16	3	...	...
<b>Soda, Acetate</b>	...	...	...	...	0	8	0 1
Do. Bicarbonate...	...	...	...	...	0	2	...
Do. Carbonate	...	...	...	...	0	2	...
Do. <b>Hyposulphite</b>	...	...	...	...	0	2	...
Do. Do.	...	...	7 lbs.	1	0	...	...
Do. Phosphate	...	...	...	...	1	0	0 2
Do. <b>Sulphite, Recryst.</b>	...	in ½ lb. bottle	1	0	...	...	...
Do. Do.	...	in 1 lb. bottle	1	10	...	...	...
This chemical spoils on exposure to air.							
Do. Tungstate	...	...	...	...	1	6	0 2
<b>TEST PAPERS (Litmus)</b>	...	per book	0	2	...	...	...
" (Clark's)	...	"	0	6	...	...	...
<b>Talc, Powdered</b>	...	...	...	...	1	0	0 2
<b>Varnish, Negative</b>	...	per bottle	1	0	...	...	...
Do. Do.	...	½-pint	2	6	...	...	...
Do. Do.	...	pint	4	6	...	...	...
Do. <b>Re-touching</b>	...	bottle	1	0	...	...	...
Do. <b>Matt</b>	...	"	1	6	...	...	...
Do. <b>Black</b>	...	6d. &	1	0	...	...	...
<b>WATER, Distilled</b>	...	pint	0	2	...	...	...
Do. Do.	...	gallon	0	9	...	...	...

Quantities less than 8 ozs. charged at rate per oz. Other chemicals kept in stock. Export quotations for packing in canisters and bottles.

## BOTTLES.

### White Glass.

Ounces	1	2	3	4	5	6	8	10	12	16	20
<b>CORKED NARROW MOUTH, each</b>	1d.	1d.	1½d.	1½d.	2d.	2d.	2d.	3d.	3d.	4d.	4d.
Do. <b>WIDE do.</b>	1d.	1½d.	1½d.	2d.	2d.	2d.	3d.	3d.	4d.	5d.	6d.

### White Glass.

### Blue.

<b>STOPPERED NARROW do. each</b>	3d.	4d.	5d.	5d.	6d.	6d.	8d.	6d.	8d.		
Do. <b>WIDE do.</b>	4d.	5d.	5d.	6d.	8d.	10d.					



